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A DESCRIPTION OF THE PROCEDURES USED FOR CIVILIAN ACCREDITATION OF MILITARY OCCUPATIONS IN CANADA

by

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A THESIS
SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH
IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE
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THE UNIVERSITY OF ALBERTA
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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled A DESCRIPTION OF THE PROCEDURES USED FOR CIVILIAN ACCREDITATION OF MILITARY OCCUPATIONS IN CANADA, submitted by TONY LIPWING YEE in partial fulfilment of the requirements for the degree of Master of Education in Vocational Education.

ABSTRACT

Because of the greater demands of sophisticated technology in use by the military, the military finds it necessary to work with the civilian sector of the economy. Because of this close working relationship, both sectors find themselves using many of the same and related procedures, techniques or occupational skills found in apprenticeable trades.

The purpose of this study was to describe the procedures used by civilian accrediting agencies to certify a military occupation with a counterpart civilian occupation.

The population of this study included personnel from apprenticeship branches in each province and territory of Canada.

To collect data for this study, a research questionnaire was designed. Prior to being used in the major investigation, the instrument was pretested in a pilot study.

The data collected with the research instrument was placed in tabular form for analysis. From this analysis, observations, conclusions and recommendations were developed.

The final outcome of this study was to describe the procedures used by each province and territory to accredit a military occupation for civilian certification at the apprenticeship or journeyman level.

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CHAPTER I

INTRODUCTION

For many years, the experience and training gained by military personnel in the Canadian Armed Forces were of little value for civilian employment. This situation reflected the presence of many combat-oriented personnel skilled in the military occupational structure for which there was no civilian counterpart occupation. In the past decade this has changed because of the technological growth which has changed the skill ladder required for some of the more esoteric military occupations. Because of these technological developments, the Canadian Armed Forces have had to develop highly sensitive weapons systems which have generated requirements for technically skilled personnel, for example, Avionics Technicians. The skills developed in this military occupation and other similar military occupations have a great demand within the civilian labor sector. Therefore, the skills developed from military experience and training could be considered both beneficial to the service as well as to the civilian labor market.

Within the past two years, the military has been working in close co-operation with Apprenticeship Branches across Canada to determine which military occupations can be certified with a civilian occupation that requires similar skills.

Because of the recency of this liaison, there is little

research that has been directed toward the identification of skills and competencies of military occupations that Apprenticeship Branches which are responsible for civilian certification recognize. Consequently, there are a number of military occupations that if recognized could contribute to civilian employability of discharged service personnel. The procedures used by civilian personnel to identify the components of a military occupation for certification with a civilian occupation have neither been released to the general public nor have been reported in the professional literature.

Statement of the Problem

The major problem of this study was to describe the procedures that were used by provincial government agencies i.e., Apprenticeship Branches across Canada to certify a skilled military occupation with a counterpart civilian occupation.

Objectives of the Study

The major objective of this study was to describe the procedures that were used by individuals employed by the Apprenticeship Branches in Canada who are responsible for certifying a military occupation with a similar civilian trade.

The following supportive objectives were investigated:

1. To identify the procedures presently used by the persons associated with Apprenticeship Branches for

certifying military occupations.

2. To determine the criteria that were used by civilian personnel to identify an appropriate level of military work experience in a military trade with the hours required in a similar civilian trade for certification.
3. To determine at what level of military training and experience service personnel were granted permission to write the various apprenticeship examinations administered by the Apprenticeship Branches across Canada.
4. To determine what military occupations were considered to receive credit toward Provincial Journeyman and/or Interprovincial Journeyman Red Seal and how each standard could be met by service personnel while on active duty.
5. To determine if the Bureau of Apprenticeship and Training of the United States Department of Labor had a set of guidelines that it used to equate a military occupation from the Armed Services of the United States with a civilian occupation.

Significance of the Study

Prior to 1967, Canada, like the United States of America, had a separate Army, Navy, and Air Force. In 1964, the Parliament of Canada passed the Canadian Forces Reorganization Act, (C-96), authorizing the Department of National Defence to

begin integrating these three services. This statute became law on May 8, 1967. In 1967, there were 120,781 officers and men who made up the Armed Forces of Canada. This statute, as outlined in the White Paper on Defence, 1964, was the first step toward a single unified force in Canada. By February 1, 1968, the first step of the integration process was completed.

The amalgamation of the three services was designed to reduce military expenses and to end duplication of duties and training. For example, integration allowed for only one training program for all units of employments.

Since the unification of the services, there has been a convergence of the military occupational structure with the occupational structure found in the civilian sector. The technical skills that a technician developed in the technical training program of the Canadian Armed Forces in some instances did make a contribution to the preparation of skills required of technicians in Canadian industries.

It has been only within the past five years that personnel from the military establishment became actively engaged with personnel from the apprenticeship branches of the country so that certain military trades would receive recognition as apprenticeable civilian trades. The procedures that are used by these civilian accreditors in deciding which military occupations to recognize has not been documented in the professional literature.

It is hoped that the results of this study may be used to provide both military and civilian manpower planners with an information base that will describe the procedures used by

civilian personnel for certifying military trades in order for these individuals to make maximum use of one of this nation's most prized human resource - skilled manpower.

Limitations

This research had the following limitations:

1. It was limited to those military occupations that were certified as apprenticeable with each Apprenticeship Branch in each of the ten provinces and the two territories in Canada.
2. It was limited to those military occupations that could be crossed referenced with the 1975 Trades Apprenticeship Regulations in each province and territory with the exception of Alberta. For this province, the Manpower Development Act, 1976 will be the cut off point.
3. It was limited to the kinds of information provided by co-operating agencies at the request of the researcher.
4. It was limited to the information on the certification of military occupations secured from apprenticeship personnel from the ten provinces and the two territories in Canada and their agencies.

Assumptions

The following assumptions were applied to this study:

1. It was assumed that similar procedures for certifying military occupations with similar civilian occupations were used by personnel of Apprenticeship Branches across Canada who were charged with this responsibility.
2. It was assumed that in all ten provinces and the two territories similar criteria were used to identify an appropriate level of military experience in a military trade with the hours required for trade qualification or certification for a similar civilian trade.
3. It was assumed that for certain military trades, and at a certain military "Pay Level", these military trades were considered equateable to civilian occupations.
4. It was assumed that a service person with appropriate time and technical training in a military trade could be granted credit on apprenticeship programs and the opportunity to challenge journeyman and interprovincial examinations at any Apprenticeship Branch in Canada.
5. It was assumed that the Bureau of Apprenticeship and Training of the United States Department of Labor had established a set of criteria for equating military occupations in the United States with similar civilian occupations.

Operational Definitions

The following operational definitions which specifically apply within the framework of the study are set forth below:

Apprentice

There are a number of definitions in the literature for the term apprentice. The definition given for apprentice in the Canadian Classification and Dictionary of Occupations (1971) was found acceptable for this study. According to this authoritative source, apprentice is defined as "a worker who is bound by contractual agreement to serve an employer for a specified period of time, with a view to learning a craft or trade in which the employer is obligated to instruct him." (p. 5)

Apprenticeship Branch

The members of the Alberta Apprenticeship and Trade Certification Branch define the term apprenticeship branch as a branch of the provincial government that is established by provincial legislation to administrate rules and regulations which is directed at apprenticeship training and certification of tradesmen. This branch is responsible for developing apprenticeship program, setting trade standards, evaluating field experience, and administrating regulations.

Apprenticeship Examinations

This term is defined by members from the Alberta Apprenticeship and Trade Certification Branch as progressive examinations which are conducted at the apprentice level in order for the trainee to receive credits toward journeyman certification.

Bureau of Apprenticeship and Training

The term Bureau of Apprenticeship and Training is defined by the World Book Encyclopedia (1972, Vol. 1) as "an agency of the United States Department of Labor. It helps develop apprenticeship and training programs in industry and sets standards for employers to follow in these programs. . . . apprentices must receive periodic wage increases and evaluations of their progress. Upon completion of a program, an apprentice must be recognized as a journeyman." (p. 537)

Career Field

There are several definitions in the literature for the term career field. The definition given for career field in the Canadian Forces Publication, CFP 123(1), 1975, was considered appropriate for this study. According to this publication, career field is defined as "a grouping of trades related by an identification of similar knowledge and skills. A career field may consist of a single trade or two or more trades which are similar in skills and knowledge, and in which progression from the lowest to the highest level takes place in the individual trades, or two or more "working" trades which feed into a "supervisory" trade." (p. 2)

Designated Trade

The Alberta Apprenticeship Act (1970) refers to designated trade as "a trade or branch of a trade designated by the Minister (Executive Council) with the approval of the Lieutenant Governor in Council as a trade coming within this Act." (p. 1)

Interprovincial Certification

The definition given by the Alberta Apprenticeship Newsletter (July, 1975) for the term interprovincial certification is as follows:

> as a co-operative project under-taken by the Provinces, Territories, and the Federal Department of Manpower and Immigration. Its main purpose is to establish uniform trade standards throughout Canada with the objective of reduction of barriers to movement of tradesmen. The development, updating and the use of Interprovincial Standards Examinations are playing important roles in achievement of the main objective, (p. 2).

Proficiency Examinations

The definition given for proficiency examinations by members from the Alberta Apprenticeship and Trade Certification Branch as journeyman certifying examinations which are conducted at the journeyman level in order for the tradesman to obtain the Provincial Journeyman Certificate and/or the Interprovincial Red Seal affixed to the Provincial Journeyman Certificate. These examinations are compulsory, and the tradesman must obtain a journeyman Proficiency Certificate in order to practise in the designated trade.

Qualification Examinations

The definition of qualification examinations is defined by members from the Alberta Apprenticeship and Trade Certification Branch as journeyman examinations which are administrated at the journeyman level in order for the individual tradesman to obtain the Provincial Journeyman Certificate and/or the Interprovincial Red Seal affixed to the Provincial Journeyman

Certificate. These examinations are non-compulsory in nature, and the individual tradesman does not require a journeyman Qualification Certificate to practise in the designated trade.

Technician

The Canadian Classification and Dictionary of Occupations (1971) gives the following definition for the term technician:

> Technician is defined as a worker who performs a limited number of technical functions in a physical science, life science or engineering specialization, primarily in relation to installation, operation and maintenance, quality control, production planning or biological testing and analysis activities, using a basic knowledge of specific scientific, mathematical or engineering and drafting design principles and practices, (p. 7).

Trade (civilian)

An adequate definition of the term trade was found in the Tradesmen's Qualification Act, (Chapter 367, 1955). According to this publication, a trade is defined as a mechanic engaged in the construction, building and repair of automobile engines, steam engines, boilers, internal combustion engines, radios, refrigerators and refrigerating machines or in any of these activities." (p. 5441)

Trade (military)

There are several definitions in Publications of the Canadian Forces for the term trade (military). The definition for trade (military) in Canadian Forces Publications, CFP 123(1), 1975 defines this term in the following manner:

> A military trade is composed of a number of related functions embracing similar knowledge and skills associated with the performance of a particular series of duties which classifies men according to their special expertise required to perform select military jobs, (p. 2-3).

Population

The population for this study included those people who were employed by the Apprenticeship Branch in each province and territory in Canada. This population included either the Director and/or his designee, who had responsibility for certifying military occupations with counterpart civilian occupations.

Instrumentation

Developing the Research Instrument

From an extensive library research, it was found that there was research completed on the transferability of military skills, but no study had been completed in Canada that directed itself at the certification of military occupations with a counterpart civilian occupation by civilian agencies. As a consequence, there was no previous instrument that could have been used as a model by the researcher. Because of the lack of a model instrument, an additional search was made of textbooks and reference books that were written on instrument design. The purpose of the search of these reference sources was to provide the researcher with background information on how to phrase questions; how to sequence questions in a logical order; and how to organize a questionnaire so it would yield significant data.

In selecting questions for inclusion in the research instrument, three criteria were established. The first criterion was that each question had to yield information that would show the kind of activities that were used by civilian personnel to certify military occupations with counterpart civilian

occupations. The second criterion was that each question had to provide data that would indicate the procedures that were used by civilian personnel in certifying military occupations. The third and last criterion that was established was that questions on the survey instrument should be so phrased that personnel from the apprenticeship branches across Canada would have little or no difficulty understanding the intent of each question.

The first step in designing the research instrument was to identify the lexicon of terms that are used by personnel who work in apprenticeship branches identifying military trades that can be recognized for civilian certification. To acquire a working knowledge of these terms, a number of visits were made with the personnel of the Alberta Apprenticeship Branch. The results of these visits were that the researcher developed a knowledge base of the terms that are used by these personnel so that these terms could be included in the appropriate questions of the instrument.

To assist the researcher in identifying what military trades are recognized by civilian agencies, on-site interviews were held with program planners at apprenticeship branches in Alberta, Quebec and British Columbia. During these interviews, the researcher used the laundry list of 99 military trades that were identified by the Military/Civilian Training Accreditation Committee (M/CTAC). This Committee has categorized these trades into a structure of trade groups with each trade group placed in a series from 000 to 999. According to the

Committee, all Combat Trades are placed in a series from 000 to 099; Combat Support Trades 100 to 199; Communication and Radar Trades 200 to 299; Marine Engineering Trades 300 to 399; Land Vehicle and Weapons Support Trades 400 to 499; Aviation Support and Shop Trades 500 to 599; Construction Engineering Trades 600 to 699; Medical and Dental Trades 700 to 799; Personnel and Administrative Support Trades 800 to 899; and Supply and Transportation Trades 900 to 999. The results of these interviews showed that not all of the 99 military trades were recognized as apprenticeable trades in the apprenticeship branches involved in this phase of the study. The number of trades that were recognized varied from province to province.

The trades that each of the three provinces recognized were recorded on a master chart for quick reference. Later, these military occupations were integrated and duplicate trades were eliminated. This procedure resulted in a maximum listing of 43 military trades that may receive civilian recognition.

The first draft of the research instrument was reviewed by selected members from the Department of Industrial and Vocational Education, Faculty of Education, The University of Alberta. The purpose of this review was to solicit comments and criticism on the overall design of the instrument, the sequence of questions as well as the word sequence used in each question. The comments and recommendations made by these reviewers were used to redesign the research instrument.

The second draft of the research questionnaire was reviewed by a specialist in instrument design from the

Department of Educational Psychology, Faculty of Education, The University of Alberta. This review had the following purposes: to determine face validity of each question; to determine overlap of question; to determine question sequence; and to determine question ambiguity.

From this review, it was found that questions 2, 3, and 4 were rather similar in phraseology. Because the reviewer thought that questions 3 and 4 were redundant, the recommendation was made that these questions be deleted from the final draft of the research instrument. These criticisms were discussed in detail with the thesis supervisor who recommended that these changes be included in the third draft of the instrument. The research questionnaire was redesigned and reviewed by selected members of the Alberta Apprenticeship and Trade Certification Branch. These personnel were responsible for reviewing military trade experience for certification with a civilian occupation.

The results of this review indicated that the format of the questionnaire was acceptable as was word sequence of a number of questions. Questions were easily interpreted and that a number of questions required additional information to add to their clarity. One of the most significant results of this review was that the minimum and maximum range of time spent by a military trades-person in a military trade was considered to be either too high or too low when compared to the time that a civilian apprentice spends in a comparable civilian occupation. Therefore, another scale computed in years and

hours was used.

One reviewer pointed out that question 2 and 3 ask for similar information and recommended that question 3 be deleted from the questionnaire. This recommendation was followed. To clarify the intent of the type of journeyman status implied in a number of questions, the adjective "provincial" was added to the noun "journeyman". This was done to distinguish this category of tradesmen from those individuals who are identified as "Interprovincial Journeyman".

The third draft of the research instrument also was reviewed by a selected group of aircraft technicians of the Canadian Armed Forces. From this review, it was found that pay levels were inappropriate criteria for equating time spent in a military trade with a similar civilian trade. Like their civilian counterpart reviewers, the military reviewers also felt that pay levels were not a realistic criteria. These reviewers pointed out that military personnel may change their career pattern while in the service. Although this may occur, the enlisted man who changes from one military occupation to another still retains the same rank and pay level that was held prior to selecting a new military career pattern.

Pilot Study

The final draft of the research instrument was used in a pilot study with selected members of the Alberta Apprenticeship and Trade Certification Branch. These personnel were

selected for the following reasons: they were knowledgeable about the research, they were readily available and they were responsible for certifying military trades with similar civilian occupations.

The purposes of the pilot study were as follows: to determine the content validity of each question on the research instrument; to determine if any of the questions in the questionnaire were ambiguous and needed to be clarified; to determine question sequence; to determine if any additional questions were needed; and to determine the amount of time required to complete the instrument.

The result of the pilot study indicated that the title Apprenticeship Board was incorrect, and the correct title was Apprenticeship Branch. Another result of the pilot study was that the years in a trade and the yearly hours of apprenticeship training be substituted for all military pay levels.

These recommendations were incorporated into the final research questionnaire before it was posted to the participants of the study. A copy of the research questionnaire is included in Appendix D, page 210.

Research Methodology

A list of the names and addresses of Directors of each apprenticeship branch in Canada and its territories was obtained from the Alberta Apprenticeship and Trade Certification Branch. From this list, a mailing list was compiled and a

copy of the research instrument with a covering letter was mailed to each Director. The purpose of the covering letter was to give an overview of the study, the purpose and the role of the participants in the study, and to establish a deadline date when the completed instrument was to be returned to the researcher. A sample copy of this letter can be found in Appendix C, page 207. Also included in this letter was a stamped, self-addressed envelope for the return of the completed instrument.

Nine of the 12 participants, or 75 per cent returned complete instruments by the established deadline date. To increase the rate of return, those participants who were delinquent were contacted by telephone. After telephone contact was made, a special follow-up letter was written. The follow-up letter including a research instrument was mailed to each delinquent participant.

An additional three instruments were received from these follow-up procedures. The initial letter and the follow-up letter yielded a 100 per cent return. Of the twelve instruments received all were useable. Portions of a number of returned instruments were partially completed. However, participants who returned partially completed instruments sent accompanying literature or explanations why they did not respond to certain questions.

The data collected with the questionnaire were analyzed and placed in tabular form for ease of interpretation. Other information placed in the comment section for each question

by participants were scrutinized for relevance to the study. These comments are included in a subsequent chapter of this thesis.

From the results of the study, a description of the procedures used by each accrediting agency in each province and territory was formulated. Observations, and recommendations were made.

Organization of the Thesis

This chapter presented (1) an introduction to the research problem; (2) the objectives; (3) the significance of the study; (4) limitations of the study; (5) assumptions associated with the study; (6) operational definitions that apply to the study; (7) the research population; (8) the instrument used for data collection; (9) a description of the pilot study; and (10) an overview of the methodology that was used to bring the study to its conclusion.

Chapter II reviews the literature related to the study. It includes (1) a brief discussion on the history of vocational education from a North American context, as well as the clustering of vocational education programs of studies in North America; (2) a review of relevant literature that deals with the organization of the Canadian Forces and the clustering of military occupations into career fields; (3) an overview on the apprenticeship programs in Canada; and (4) a discussion of civilian accreditation of military occupations as

it applies to this study.

The third chapter deals with the analysis of data yielded by the research instrument.

The fourth and final chapter presents a summary of the findings of the study, observations and conclusions, a description of the procedures used by apprenticeship branches in Canada to accredit military occupations, as well as recommendations that were made to: apprenticeship branch personnel; directors of individual training (military); and military applicants seeking civilian certification.

CHAPTER II

REVIEW OF RELATED LITERATURE

INTRODUCTION

The first chapter presented an overview of the research with a detailed description of the instrumentation, the pilot study, and the methodology used to collect data for the study. This chapter of the report deals with a review of the literature that is related to this study. This chapter is divided into four sections. The first section is limited to a brief discussion on the history of vocational education as well as studies that have been completed that deal specifically with the concept clustering of vocational education programs of studies in North America as advocated by leading vocational educators. The second section contains a review of relevant literature that deals with the reorganization of the Canadian Forces and the clustering of military occupations into career fields. The third section presents an overview on the apprenticeship programs in Canada with emphasis on Alberta. The fourth and last section of this chapter is devoted to civilian accreditation of military occupations both in Canada and in the United States.

History of Vocational Education

Historically, vocational education can be divided into two distinct time frames. The first time frame can be considered as informal vocational education which can be traced back to antiquity where the skills of craftsmanship continued to be passed from father to son with little collective effort to provide instruction. Society developed the need for vocational education, and its modern roots appeared in the educational reforms of Rousseau, Pestalozzi, and Fellenberg. These reforms, in terms of vocational education, were slowly filtered into formal education which forms today's apprenticeship programs and continue to be an important aspect of vocational education. The second time frame can be looked upon as formal vocational education which brought skill training programs into secondary schools both in the United States and in Canada. These programs resulted from the passage of legislation at the federal level that granted financial support to vocational education at the secondary school level. This legislation at the federal level included the Smith-Hughes Act (1917) in the United States, and the Technical Education Act (1919) in Canada. At that time, vocational education programs of studies, particularly at the secondary school level in the United States, centered around several industrial craft trades or skilled trades which included: Drafting; Carpentry; Electricity; and Automechanics; as well as Agriculture and Home Economics. Under the Technical Education Act (1919) in Canada, vocational education programs of studies that were funded

included Agriculture and Home Economics.

Vocational Education In Canada

Since the time of the Technical Education Act, vocational education has gradually evolved into today's manifold programs in the education sector that has the support of private industry, the federal, and the provincial level of governments. Prior to the passage of this Act, the growth of vocational education had been generally sporadic. The chief reason for the "Hill and Valley" growth was the irregular financial support that vocational education received from the federal government to each of the provinces. Young and Machinski (1973) in their book An Historical Survey of Vocational Education in Canada, commented that on October 25, 1920, the Minister of Labour, Senator Robertson, charged each province with the responsibility for vocational education and provincial authorities with full jurisdiction in all matters pertaining to vocational education. Senator Robertson regarded the Federal Department of Labour as the agency to assign work equalization to each province (p. 27).

The following pieces of federal legislation had an affect on the growth of both vocational and technical education in Canada. Since 1910, the federal government had considered providing support for vocational and technical education. The first financial support to vocational education was given under the Agricultural Instruction Act (1913) which provided financial assistance on the basis of population to each of the provinces.

This legislation was followed by the Technical Education Act (1919) which provided 10 million dollars for all of the provinces over a ten year period. These funds were to be matched on a 50-50 basis by each of the provinces that participated. Glendenning (1968) stated that after the 1919 Federal-Provincial Agreement, by 1921-22, Alberta began an extensive program to establish four commercial high schools, two technical schools, three part-time general education schools, two correspondence, fourteen coal mining schools, four steam engineering schools, four sewing and dressmaking schools, and eight business English and arithmetic schools (p. 24).

Chalmers (1967) stated that the Dominion Unemployment and Agricultural Assistance Act, (1937) had a great deal of influence on vocational education. This Act provided one million dollars per year per province. These funds were used for technical training for the unemployed in Agriculture; Dressmaking; Forestry; Mining; Practical Nursing; Home Service; Blacksmithing; Woodworking; Welding; Machine Operating; Electricity; Sheet Metal; and Motor Mechanics (p. 209).

Glendenning (1968) stated that the Dominion Unemployment and Agricultural Assistance Act of 1937 continued under the Youth Training Act of 1939. However, in 1941, the Dominion Unemployment and Agricultural Assistance Act became the War Emergency Training Act (p. 27-33). In 1942, financial assistance to the War Emergency Training Act was provided by the Vocational Training Act. During this time, further Federal-Provincial Agreements with all existing Acts were followed by

the Vocational Schools Assistance Act (1945). The above Acts and Agreements were repealed in December, 1960 when they were replaced by the Technical and Vocational Training Assistance Act (1960). This Act grouped together all federal-provincial activities in the field of vocational education. Under this Act, the province would finance 25 per cent, and the federal government would finance the remaining 75 per cent of the cost to provide technical and vocational education facilities for the first two years and 50 per cent of the approved expenditures for the remainder of the agreement (pp. 50-60). The Technical and Vocational Training Assistance Act was repealed in 1967; however, it was extended to March 31, 1970.

In May of 1967, the Adult Occupational Training Act came into being. This new Act terminated federal support for vocational high school programs and stressed the development of post high school adult training or re-training programs. In its agreement with the provinces, the federal government agreed to pay a portion of the capital expenditures incurred by each province for occupational training facilities. In discussing this financial arrangement, Duffett (1972) in his book Survey of Vocational Education and Training wrote the following:

> the federal government agrees to pay to the province 100 per cent of the costs incurred by the province to provide training to adults in a training course arranged by a federal manpower officer or in an apprenticeship training program. In the latter case, the actual amount of the payments are based on the ratio of manpower trainees to the total number of trainees in the course. The federal government also

> pays, as specified in a contract, costs incurred by an employer who provides training for his employees to prevent the loss of employment due to rapid technological and economic changes (p. 5).

Vocational Education in the United States

Federal aid for vocational education in the United States started early in the twentieth century. However, according to Barlow (1965) the first federal vocational education act was signed into law on February 23, 1917, by President Woodrow Wilson (p. 186). During the early 1900's, most of the skilled workers in the United States had come from Europe. When the immigration laws were tightened, labour, industrial, agricultural and government leaders realized that vocational education programs required development if the United States was to move forward in its economic growth.

In one of its reports, the United States Office of Education (1964) stated that the following pieces of federal legislation had an affect on the growth of both vocational and technical education in the United States. The Smith-Hughes Act which was created by an Act of Congress in 1917 provided approximately 7.2 million dollars annually for the promotion of vocational education in Agriculture, Trade and Industry, Home Economics at the secondary school level, and Teacher Training. Federal funds were to be matched by states in a ratio of 1 to 1 (p. 21).

The George-Reed Act (1929) was an authorization that appropriated one million dollars annually to expand vocational education programs in Agriculture and Home Economics. This Act

also provided 100,000 dollars for the Federal Board to cover the administrative costs of vocational education. The Act expired in June, 1934 (United States Office of Education, 1964, p. 22).

The George-Ellzey Act (1934) authorized an appropriation of 3 million dollars annually to be shared equally for training in Agricultural Education, Home Economics Education, and Trade and Industrial Education. An amount of 100,000 dollars was authorized for the Department of the Interior, Office of Education, for administrative and other costs related to this Act (United States Office of Education, 1964, p. 22). The George-Ellzey Act terminated in 1937.

The George-Deen Act (1936) was approved by Congress as a replacement of the George-Ellzey Act. The annual authorization under this Act for Agriculture, Home Economics, and Trade and Industrial Education was 12 million dollars. An annual allotment of 1.2 million dollars was authorized for vocational programs in the distributive occupations. For teacher training, the Act authorized an expenditure of 1 million dollars annually, and allotted 350,000 dollars to the Office of Education for administrative and other costs. The total annual authorization for vocational education programs under the George-Deen Act was approximately 14,550,000 dollars (United States Office of Education, 1964, p. 23).

In 1946, the George-Deen Act was amended by the George-Barden Act which authorized an appropriation of 28,850,000 dollars annually for vocational education programs in the

following areas: Agriculture, Home Economics, Trades and Industry, and Distributive Occupations. Funds were to be matched by states in a ratio 1 to 1 for each federal dollar. Under this Act, funds were authorized for: guidance, teacher training in several fields and research in vocational education. In 1956, an amendment to the George-Barden Act was approved which provided 375,000 dollars annually for vocational training in Fishery Trades, Industrial Education, and Distributive Occupations. The purpose of this amendment was to promote the fishing industry by providing training of personnel (United States Office of Education, 1964, p. 23).

The Manpower Development and Training Act 1962, authorized 97 million dollars for the first year, and 161 million dollars each year for the second and third years for training and developing skill programs under the control and supervision of state boards of vocational education. This Act was scheduled to terminate on June 30, 1965. It was revised in 1963 when an appropriation of 89,833,000 dollars were made available for 1965 fiscal year which required no matching. However, for fiscal year 1966, one-third of the federal dollars had to be matched with state and local funds (United States Office of Education, 1964, p. 24).

In writing about the Vocational Education Act of 1963, Prakken (1964) wrote that the Act authorized an appropriation of 79 million dollars to assist states: to maintain, extend, and improve existing vocational education programs; to develop new programs; to provide part-time employment for youths so that

they could continue their vocational training on a full-time basis as well as to provide instruction to all persons in communities who are interested in vocational training and retraining programs (p. 2). Federal funds under this Act were to be matched by states on a 1 to 1 basis. If a state was unable to match federal funds, the unmatched funds would be reallocated to other states. This Act made possible brighter futures for all phases of vocational education, and at the same time provided a milestone in the history of vocational, technical, and adult education in the United States. This Act also brought up-to-date the Smith-Hughes Act and the George-Barden Act. The Vocational Education Act of 1963 also authorized Congress to appropriate funds to state boards, community and junior colleges, and universities for the purpose of work study programs. No state or local matching funds were required to match federal funds for tertiary work-study programs for the fiscal years of 1965 and 1966; however, for the fiscal years 1967 and 1968, states were required to match one dollar for every three dollars received from the federal government for work-study programs (p. 3).

Schuchat (1969) reported that the Vocational Education Amendments of 1968 were an appropriation Bill which authorized Congress to allocate 25 million dollars for fiscal year 1969, 30 million dollars for 1970, and 35 million dollars for fiscal years 1971 and 1972 to fund the following areas: management and labor; community, junior colleges, post-secondary or adult education institutions; and local educational and school

boards; manpower and vocational institutions; special educational institutions for physically and mentally handicapped persons; academic educational policy development; and evaluation of vocational education programs, services, and activities (p. 26).

When the Vocational Education Amendments of 1968 became effective on October 16, 1968 all prior vocational education legislation with the exception of the Smith-Hughes Act were repealed. From the fiscal year 1970 and thereafter, all Smith-Hughes appropriations were added to the appropriations of the Vocational Education Act of 1963 and its amendment of 1968. Since 1963, reform in vocational education has been relatively slow moving and unimpressive, with the federal government providing only one-fifth of all vocational education funds, and state and local authorities providing the other four-fifths (Roberts, 1971, p. 114).

In the United States in the past decades, federal grants influenced the states to develop new programs and improve existing programs in vocational education. For example, in 1917, the task for vocational educators was to construct programs of studies for vocational education which would provide an educated labour force. However, in 1963, the task of these educators was to review past achievements and to modernize and redirect vocational education programs in terms of the extraordinary developments in technology and in terms of a variety of social and economic needs.

Prior to 1968, most of the vocational and technical training in the United States had been centered in high school programs. The support of these programs was through shared federal funding with each state matching federal funds in a ratio of 2:1 that was first undertaken with the Smith-Hughes Act. These programs have been supplemented by state and local area vocational-technical centers. Kurth (1974), in reporting on vocational education in post secondary schools pointed out that there were 1,150 junior and community colleges, 5,000 proprietary trade schools and a multitude of on-the-job training programs in industry. Although enrollments in high school vocational programs were almost doubled in the early 60's, they have increased almost four-fold in the community colleges (p. 29).

Glenn (1974) reported on the extent of federal funding of vocational education in the United States when he wrote:

> Federal funding for vocational-technical education now includes monies for: construction of area vocational-technical school facilities; expansion of instructional services for special groups; personnel development; and research and development of new methods and techniques for the delivery of services (p. 53).

Clustering of Vocational Education Programs of Studies in the United States

In the past decade and a half, vocational educators in the

United States agreed that sufficiently comprehensive programs had to be provided to develop the range of human powers which ultimately would contribute to the productivity of society and the perfection of both the individual and society. A way to accomplish this goal was by curriculum renewal. This venture was aimed at discovering ways to integrate the occupational preparation of individuals into a relevant total educational structure. This occupational preparation could be accomplished by providing students with a core of skills common to a number of related occupations, rather than focusing directly on a specialized occupation. This occupational preparation could also enable a high school student to gain job entry more easily, and at the same time, to be better prepared to adapt in a changing world of work. Because of the broad-based preparation for several possible key occupations, and a better integration of vocational and general education, students would be able to select a various core of skills or select a cluster which is common to a related occupation at the high school level.

In discussing the general advantages of clustering related occupations, Hickman (1971) stated that 97 per cent of the approximately 25,000 existing occupational titles listed in the Dictionary of Occupation Titles can be grouped into a few major areas according to similar characteristics and purposes of the listed occupations (p. 44). For example, a health cluster might include such occupations as medical assistant, nurse's aide, dental technician, and inhalation therapist; or a mechanical cluster might include automobile mechanic, construction-equipment

mechanic, diesel mechanic, garage foreman, and office-machine serviceman. In the late 60's, the United States Office of Education did a similar study on clustering occupational titles.

University of Maryland

Since 1965-1969 a group of researchers, at the University of Maryland, working under the direction of Maley began to cluster the traditional vocational education program of studies into three major occupational clusters. Maley (1975) stated that the three clusters, Construction; Metal-Forming and Fabrication; and Electro-Mechanical Installation and Repair have commonalities in terms of communications, measurement, manipulative skills, mathematics and science, and related information (p. 125).

The aim of clustering a program was to give students entry level skills for a range of related occupations rather than a specific occupation as was previously the case. Kratochvil and Thompson (1972) reported on one of the 21 case studies of the Cluster Concept Program that was developed at the University of Maryland. These researchers reported that this longitudinal study was geared toward the preparation of individuals for entrance into a spectrum of occupations rather than for a single occupation. The clusters of occupations that were involved in this study included: Construction; Electro-Mechanical Installation and Repair; and Metal-Forming and Fabrication. The content of the above programs were directed toward students in grades

11 and 12 who wanted some occupational preparation yet wanted to remain in the main stream of the educational program. This four year study began in 1965 and terminated in 1969 when the results of the study were reported (p. 64).

According to Maley (1975), the cluster concept of occupations developed at the University of Maryland was designed to serve the following four functions:

> 1. It enables the student to develop job-entry skills and understandings at two different levels: The first level required skills immediately for entrance on the job; the second level required skills and understandings at a point approximately six months into the program.
> 2. It enables the individual to remain in the main stream of academic studies by virtue of two important characteristics: It was a two-year program (grades 11 and 12); it was a two-period per day program.
> 3. It enables students with a broad exploratory possibility in a number of occupations related to the field which include: Construction; Metal-Forming and Fabrication; Electro-Mechanical Maintenance and Repair selected by the students.
> 4. This cluster concept had a strong tie-in with a number of commonalities which are related to subjects such as mathematics, science, safety, communications, measurement, and technical and trade related information (p. 63).

Vocational Education Clustering in Other States

Following the lead of Maryland, a number of other State Departments of Education in the United States began to cluster their vocational education program of studies. Two of the leading states that have clustered their vocational education programs of studies were Oregon and Georgia. The framework for clustering vocational education programs of studies in these

two states involved broadening vocational education course offerings so that they may include several related occupational areas in one program, rather than designing a different program for each specific trade.

Oregon

Wolansky (1970), reported in an article that the 1968 Oregon Board of Education publication, "A Guide to the Structure and Articulation of Occupational Education Programs", has the following statement on the concept of an occupational cluster:

> The occupational cluster concept holds that occupations may be classified into logically related groups on the basis of identical or similar elements. It follows, then, that the recognized occupations within each cluster include identical or similar teachable skills and knowledge requirements. Following this premise, the implication is that occupational education centered on the knowledge and skills common to the occupations constituting a cluster should prepare students for entry into a family of occupations rather than a specific occupation (p. 34).

In the same article, Wolansky in "Oregon Musters a Statewide Commitment to Clusters", stated two goals of Career Cluster Curriculum of the State of Oregon were: (1) to improve vocational processes, both as career-oriented training and as an approach to better education generally; and (2) to encourage the integration of vocational education and general education (p. 34).

Curriculum specialists and curriculum planners from the Oregon State Board of Education working in close collaboration with the State Advisory Council for Vocational Education, and personnel from Oregon State University identified eleven clusters

for the states' Career Cluster Curriculum. These clusters included: Accounting and Bookkeeping; Agriculture; Clerical; Construction; Electricity-Electronics; Food Service; Health Occupations; Marketing; Mechanical; Metals; and Secretarial Services (Wolansky, 1970, p. 35).

Hickman's article (1971) which appeared in the December issue of Nation's Schools described the clustering of vocational education programs of studies in Oregon. In this article, the author listed the following advantages for clustering programs of studies in vocational education:

(1) courses can be organized around common core areas of study;
(2) a student can transfer within the cluster from one job objective to another without undue loss of time;
(3) once out in the world of work, an ex-student will be able to adjust more easily to related jobs (p. 44).

In this article, Hickman predicted that by 1975, approximately half of all high school students in Oregon would be registered in a cluster program. In another article by Hickman (1971) "Where the Action Is, Oregon: Clustering", the author expanded the original eleven clusters to twelve and renamed them as follows: Industrial Mechanics; General Clerical; Marketing; Agriculture; Food Service; Construction; Wood Products; Secretarial; Metal Working; Bookkeeping and Accounting; Health; and Electricity-Electronics (p. 44).

Georgia

In 1969, the State of Georgia conducted a research project

to integrate the academic subjects of English, mathematics, and science with the programs that were offered in the vocational education program. As a result of the research findings of this study, the Department of Education of the State of Georgia advocated clustering its vocational education programs of studies to five clusters. These clusters were: Prevocational Industrial Arts, Occupational Home Economics, Agriculture, Business, and Distribution Education. Job entry task for admission to a vocational education program of study at both the secondary and tertiary levels in Georgia are being constructed to accommodate the concepts of clustering (Maley, 1975, p. 32).

Marland (1971), in his speech "Career Education Now", made the following statement on career education which has its basis in the clustering of occupational education:

> all education is career education, or should be, and all our efforts as educators must be bent on preparing students either to become usefully employed immediately on graduation from high school or to go on to further education. . . . that every young person completing our school program at grade 12 be ready to enter higher education or to enter useful and rewarding employment (p. 28).

Marland pointed out the participants of annual programs, supported by the United States Office of Education fill only half of the jobs available. The other half are filled by job seekers with little or no occupational training. However, in order to fill the training gap, training programs must be geared toward new vocational fields such as computer programmers and technicians, laser technicians, and jet mechanics. Marland (1971) stated that other occupational fields which parallel significance to the above fields are health occupations

which include: certified laboratory technologists; dental assistants; and occupational therapists (p. 28).

In 1973, Phelps wrote that the United States Office of Education, through research of its Bureau of Adult Vocational and Technical Education identified 15 occupational clusters. These occupational clusters included:

> Transportation; Agri-business and Natural Resources; Business and Office; Communications and Media; Consumer and Homemaking Education; Health; Construction; Environment; Manufacturing; Marine Science; Fine Arts and Humanities; Hospitality and Recreation; Marketing and Distribution; Personal Services; and Public Service (p. 8).

Through the same research, the United States Office of Education on Vocational Education pointed out a large part of the future potential of vocational education was bound up in the emergence of the career education concept. This was the same kind of thinking and rationale which was responsible for the expansion of vocational education programs into clusters. Simultaneously, this kind of thinking led to the development of the concept of career education.

Career education seeks to give meaning to all education by relating its contents to the present job world. Career education is by no means a substitute for vocational education. However, the two areas are somewhat inextricably linked together. Career education should neither deny intellectual achievement nor denigrate manual skills. It is neither academic education nor vocational education, yet it involves both.

Davenport in an article (1973) "We Still Need Vocational Education", made the following supportive statement regarding

key concepts of career education:

> Preparation for successful working career shall be a key objective of all education. Every teacher in every course will emphasize the contribution that subject matter can make to a successful career. "Hands-on" occupationally oriented experiences will be utilized as a method of teaching and motivating the learning of abstract academic content. Preparation for careers will be recognized as the mutual importance of work attitudes, human relations skills, orientation to the nature of a workaday work, exposure to alternative career choices, and the acquisition of actual job skills. Learning will not be reserved for the classroom, but learning environments for career education will also be identified in the home, the community, and employing establishments. Career education is a basic and pervasive approach to all education, but it in no way conflicts with other legitimate educational objectives such as citizenship, culture, family and responsibility, and basic education (p. 66).

In the same article, Davenport summarized career education in the following ways:

> Career education, then, is total in its scope, affecting every aspect of education. It extends from the earliest years through graduate and professional school. It is career education for everyone - which could involve skill training for industrial, business, or service careers at the high school level. Additional training for paraprofessional occupations requiring one or two years of post-secondary schooling; or academic and professional education leading to a bachelor's or advanced degree (p. 66).

Clustering of Vocational Education Programs of Studies in Canada

In Canada, the major issue of clustering vocational education programs of studies by curriculum planners is to prepare students to hold down jobs, to move them into the economic mainstream, and to equip students with a number of career possibilities. The clustering of vocational education programs of studies

are the result of research by educators for a better way to teach and prepare students for the labour market. As technology advances, some trades will become more complicated, some trades will disappear, and other trade areas will have to be combined. In other areas such as unions and management, a great deal of work will have to be done to ensure that tradesmen are relevant to existing conditions and that tradesmen are not maintained in their present form just to comply with old rules, regulations, and philosophies.

Alberta

Alberta was one of the first provinces to take advantage of the Federal government's offer of financial assistance for the development of vocational programs in high schools when it accepted federal monies under the Technical Education Act (1919). Later in 1960, under the Technical Vocational Training Act, many Alberta educators viewed this federal aid as a ready made opportunity to improve technical and vocational programs in composite high schools. With vocational education programs highly developed, composite high schools strove to better serve the needs of an increased proportion of secondary high school students by developing streams involving the academic, the general, business education, and vocational education types of programs.

Shop facilities in these schools have been used to serve both the general and specific education. In these facilities, some students took courses for industrial arts purposes, and

others took courses for vocational purposes. This dual function has yet to be met with the satisfaction of the generalist or the specialist in education.

Since 1968, there has been a transition in vocational education in Alberta where the term industrial education has replaced the term "vocational education". The term industrial education has been defined by Harder (1972) in "What's With Industrial Education", when he wrote:

> Industrial education is a term which by definition includes courses in industrial arts and vocational education. These courses when taken together constitute a continuum of activities which range from courses in industrial arts which are exploratory to vocational courses which prepare students for entry into a career field (p. 9).

This transition has had an affect on the way vocational education courses in the secondary schools were organized. Prior to 1968, vocational education courses were organized around a single industrial craft trade such as: Drafting; Automotive; Welding; Electricity; Electronics. Subsequent to this date, Harder (1972) stated 14 Alberta vocational education courses had been "clustered" into seven Career Fields which include: Visual Communications; Mechanics; Construction and Fabrication; Electricity-Electronics; Personal Services; Performing Arts; and Horticulture (p. 9). According to Harder (1972), a "Career Field" represents a "family of occupations" or a "career cluster" which includes occupations that have many activities or processes in common (p. 9). Each Career Field is composed of a number of programs of studies in vocational education or a cluster of these programs of studies. For example, the Career Field of

Visual Communications includes the following vocational education programs of studies: Drafting; Graphic Arts; and Commercial Art.

Saskatchewan

From a research investigation completed by Thompson (1975) on The Effect of Participation in a Vocational Cluster on Vocational Maturity, it was reported that the Department of Education of the Province of Saskatchewan granted the Melville School District permission to cluster one of its vocational education courses (Mechanics Cluster 13) on an experimental basis. The investigation by Thompson was conducted at Melville Comprehensive High School and was designed to study the effect of a grade ten vocational cluster, Mechanics Cluster 13, on the development of a student's vocational maturity.

In describing the Mechanics Cluster 13 program, Thompson wrote the following:

> This program is designed to provide opportunities for students at the grade ten level to explore, experience and familiarize themselves with the industrial and vocational areas. These areas include electricity, electronics, automotive, welding, drafting, mechanical technology, and industrial relations. Upon successful completion of this program, the student will be given one credit. The courses deal with basic theory and practice and introduction to the equipment in each area. It involves a study of basic fundamental principles and skills. It is designed to help students to make a more knowledgeable choice of industrial and vocational courses that may be taken at higher levels and eventually a more knowledgeable career choice (p. 75).

Both the clustering of vocational education programs of

studies in Alberta into career fields and the clustering of the mechanics cluster at Melville Comprehensive High School in Saskatchewan were the only two that were identified in Canada.

Reorganization of the Canadian Forces

At one point in Canadian history, a wide gap separated civilian occupations from military occupations. A military career was regarded as something of an adventure, and civilian life was thought to be concerned only with practicalities of life. In both cases, experience was rated the best teacher. As new technologies advanced, the occupation gap steadily narrowed and new technological developments common to both have closed the knowledge gap between civilian occupations and military occupations as well as the training required for a career in both of these economic sectors.

Prior to the integration of the Armed Forces in 1964, Canada had three distinct forces, the Army, the Navy, and the Air Force. Each service had its own methods of registration and occupational classification as well as training command. In 1964, the Parliament of Canada passed the Canadian Forces Reorganization Act C-96 authorizing the Department of National Defence to integrate the three services under a single control and management with common logistics; with common supply and training systems; with common operational and functional command; and with common organization structure; yet remain separate legal entities (Department of National Defence, February, 1972).

The Canadian Forces Reorganization Act C-96 is an Act to amend the National Defence Act and other Acts in consequence thereof. The above Act stated in the Statutes of Canada 1966-67, Chapter 96, Part I, under sections 15 to 18 of the National Defence Act, that the structure of the Canadian Forces was repealed and the following has been substituted:

> 15. "The Canadian Forces are the armed forces of Her Majesty raised by Canada and consists of one Service called the Canadian Armed Forces.
>
> 16. (1) There shall be a component of the Canadian Forces, referred to in this Act as the regular force, consisting of officers and men who are enrolled for continuing, full-time military service.
> (2) The maximum numbers of officers and men in the regular force shall be as from time to time authorized by the Governor in Council, and the regular force shall include such units and other elements as are embodied therein.
> (3) There shall be a component of the Canadian Forces, referred to in this Act as the reserve force, consisting of officers and men who are enrolled for other than continuing, full-time military service when not on active service.
> (4) The maximum numbers of officers and men in the reserve force shall be as from time to time authorized by the Governor in Council, and the reserve force shall include such units and other elements as are embodied therein.
>
> 17. (1) In an emergency, or if considered desirable in consequence of any action undertaken by Canada under the United Nations Charter, the North Atlantic Treaty or any other similar instrument for collective defence entered into by Canada, the Governor in Council may establish and authorize the maintenance of a component of the Canadian Forces, referred to in this Act as the special force, consisting of
> (a) officers and men of the regular force who are placed in the special force under conditions prescribed in regulations;
> (b) officers and men of the reserve force who, being on active service or having applied and been accepted for continuing, full-time military service, are placed in the special force under conditions prescribed in regulations; and

> (c) officers and men not of the regular force or the reserve force who are enrolled in the special force for continuing, full-time military service.
> (2) The maximum numbers of officers and men in the special force shall be as from time to time authorized by the Governor in Council, and the special force shall include such units and other elements as are embodied therein.
>
> 18. (1) The Canadian Forces shall consist of such units and other elements as are from time to time organized by or under the authority of the Minister.
> (2) A unit or other element organized under subsection (1) shall from time to time be embodied in such component of the Canadian Forces as may be directed by or under the authority of the Minister," (pp. 1225-1226).

The Canadian Forces Reorganization structure was divided into two phases. On January 1, 1966, the first phase of integration was to reorganize the 11 commands of the three services. Prior to integration, the Navy had two commands, the Army had four, and the Air Force had five.

Phase two of integration was to reduce the 11 commands, each having its own single service staff and branches, down to six. The six commands after integration included: Mobile Command in Montreal; Maritime Command in Halifax; Training Command in Winnipeg; Air Transport Command in Trenton; Air Defence Command in North Bay; and Communications Command in Ottawa.

Clusters of Military Occupations

During phase two of integration, all the trades in the Canadian Armed Forces were clustered according to military trade codes. These codes are clustered in Canadian Forces Manual of

Military Occupations (1973) in the following manner:

(1) Zero series cluster from 000 to 099 deals with the Combat Trades;

(2) One hundred series cluster from 111 to 199 deals with the Combat Support Trades;

(3) Two hundred series cluster from 211 to 299 deals with the Communications and Radar Trades;

(4) Three hundred series cluster from 311 to 399 deals with the Marine Engineering Trades;

(5) Four hundred series cluster from 411 to 499 deals with the Land Vehicle and Weapons Support Trades;

(6) Five hundred series cluster from 511 to 599 deals with the Aviation Support and Shop Trades;

(7) Six hundred series cluster from 611 to 699 deals with the Construction Engineering Trades;

(8) Seven hundred series cluster from 711 to 799 deals with Medical and Dental Trades;

(9) Eight hundred series cluster from 811 to 899 deals with Personnel and Administrative Support Trades;

(10) Nine hundred series cluster from 911 to 999 deals with the Supply and Transportation Trades,(part 1-10).

From these ten trade groupings, Canadian Forces Publication 123(2), June 1973, lists 99 service trades that can be considered for apprenticeship training by civilian apprenticeship branches for civilian certification. These 99 service trades are part of Appendix A, page 192. Of these 99 service trades, there are only 43 military trades that are considered as apprenticeable by civilian certifying agencies. To illustrate, as of December 1976, Alberta recognized 9 of these 99 military trades as certifiable while Ontario recognized 32 of these military trades. The military trades that are recognized by each civilian agency are included as tables 4 to 7, in Chapter III, pages 98 to 127 inclusive.

Formal Training of Service Personnel

The Canadian Armed Forces Training Command is charged with the responsibility for all phases of training of military personnel. It is the function of this Command to train, retrain, and up-date members of the Armed Forces. Training Command has graduated 30,000 students per year from its 25 schools where 625 different courses are offered. As stated in CFP 206, which is the Canadian Forces Catalogue of In-service Courses, the duration of these courses range from courses that can be completed in a few days to those that take over a year to complete. For example, a course for Twin Otter Communication/Radar Systems Technicians (CC138) can be completed in 3 training or working days. While the course for a Fire Controlman (071) takes 331 training days to complete.

Prior to the consolidation of military bases and training in 1966, each service had its own major training school and each had its own methods of training personnel for that branch of the service. For example, the Navy's method of training was to employ an operator/maintainer concept where a tradesman was an operator for part of the career, and then a maintainer; the Army's method of training was to employ a series of courses where each successive course had an increased depth of theory in a service person's career; and the Air Force method of training was to give the new tradesman an in-depth comprehensive course that would last a service person's entire career. This

kind of training system was similar to that given during World War II which consisted of 75 per cent theory, and 25 per cent practical training.

Personnel of Training Command, Winnipeg, saw the disadvantages of this kind of training where a great deal of time was spent on mathematics to teach a principle, and examinations were academic in nature which did not measure a man's practical ability to perform in a trade. The research findings reported by Riley (1970) show that for this kind of training, the failure rate was approximately 40 per cent (p. 4). To compound this problem, the integration of the three services introduced a series of new trades, and eliminated a large number of old ones. Through experimentation, a common core training was to be modular in form, and the trainees were to study the blocks of knowledge which are required in the individual's trade. Riley stated in an article, "Implementing Performance Oriented Training", (1970), Common Core Training included: resources, manpower, equipment, space, and time (p. 4). In order to identify curriculum content for the Common Core type of training for electronics, Training Command developed a set of questionnaires that were distributed to all units concerned. This Command also requested electronic technical information from the technicians in the field. The purpose of this research was to determine whether a technician in-service adjusted, aligned, measured, repaired or replaced entire circuits, components, or parts, and the degree of trouble-shooting expertise required to rectify the problem (p. 4).

The collected data were tabulated and analyzed to identify

commonalities or clustering of skills and knowledges for the electronics trades. The results of the study indicated that out of 186 circuits common to all Armed Forces electronic and electrical equipment, 45 circuits were most common, and certain pieces of electronic equipment could contain all of these 45 common circuits.

With the results of the study, Training Command established a Common Core Training System or the clustering of training for military personnel. The major purpose of the clustering of training was to reduce the number of instructors required; to reduce training aids; and to reduce the number of training schools from 65 to 25.

In addition to these training reductions, Training Command, (Winnipeg) adopted another training concept called "A Training System Approach". This System of training provides service personnel with total and continuous training throughout the service career of the individual. The main aim of the training system approach to military training, that military training does not end after any particular course is completed, or at a given time; rather training will extend throughout the service person's entire service career. This training system not only provides on-the-job learning experiences, but also formal training in the classroom; it also points out similarities of training for personnel in the three branches of the Armed Forces. A major advantage of the Training System Approach is that it amplifies a service person's progression toward career management as outlined in Canadian Forces Administrative Order (CFAO 9-47, 1973).

Career Advancement in the Military

In the military sector, career advancement in the Canadian Armed Forces is normally through pay levels. The Canadian Forces Training System Manual (1973) gives the various pay levels that a military trades-person may achieve with additional training and trade experience. These pay levels are as follows:

1. On initial entry into the Canadian Forces, the trainees are granted Pay Level 1 which is a common pay level unrelated to any trade.

2. Upon arrival for basic training, the new recruit is provided with a common recruit training for a period of six weeks. After satisfactory completion of recruit training and after a probationary period of six months, Pay Level 2 is awarded which is also unrelated to any trade.

3. If the new recruit is successful up to this point, Pay Level 3 training will commence. This is a trade-oriented program which is selected by availability of trades and suitability of the trainees designated to the military occupation. If it is required, on the advice of a career manager, the trainee may participate in environmental specialty training at any time before or after Pay Level 3 training. This training is dependent on the assignment of the recruit.

   The military trade training is usually given by most effective and efficient means for each pay level of each trade. For a military trade person to progress from the lowest pay level to the highest pay level of the same trade, the normal advancement is by a combination of selection, course training and on-the-job training (O.J.T.). After completion of recruit training, the following pattern of achieving pay level objective is the same for all military trades.

4. To achieve Pay Level 3 objective, the military trainee is required to carry out trade course training, or O.J.T., or a combination of both techniques.

5. To achieve Pay Level 4 objective, O.J.T. is the normal method of advancement. Course training may be required for those military trainees who obtained pay level 3 qualification, or those who are progressing to a new trade, or those in which the course training is the normal pattern.

6. To achieve Pay Level 5, 6, 7, and 8 objectives, O.J.T., or a combination of course and O.J.T. is the normal method of advancement. The purpose of this kind of training is to provide any new or advance skills and knowledge to service personnel. Further training subsequent to Pay Level 5 is usually an extension of previous training, or training related to equipment not available at trade course training.

   Trade course training is required by the military trainee when the next pay level is in a new but similar trade, or the next pay level involves a substantial advance in knowledge and skills, or the next pay level involves an introduction to, or a broadening of command, leadership or supervisory responsibility (p. 9-10).

From experience, it was found that service personnel with technical skills had little difficulty marketing their military skills after separating from the service. It is the function of the Military/Civilian Training Accreditation Committee to present to civilian agencies those military trades which it believes can be recognized for civilian certification. This Committee is described in detail in the next section.

Military/Civilian Training Accreditation Committee

In Ottawa, the Military/Civilian Training Accreditation Committee (M/CTAC) was established on November, 1974 through the co-operation of military personnel and civilian personnel who certify skill tradesmen. The major aim of M/CTAC was to have

service personnel receive equivalent civilian tradesman's certification from a civilian authority while service personnel perform their trade in the Forces. According to information in the April, 1976 issue of the Canadian Armed Forces Personnel Newsletter, M/CTAC had received excellent co-operation from the province of Ontario in recognizing military trades for civilian certification. At the time that the article appeared:

> thirty-seven service trades have been assessed by that province [Ontario] with the result being that any serviceman in one of those trades can write Ontario's certification exams. For instance, a service vehicle technician can write for the Ontario motor vehicle mechanic certificate if he is pay level 5 and has 9000 hours experience (p. 2).

In other provinces, however, review of military trades for civilian certification has been very slow mainly because each service trade must be reviewed and compared with each civilian equivalent occupation, and because each province has legislation and policies that control the criteria that must be met for certification. At the present time, with the exception of Ontario, in other provinces, before service personnel receive permission to write a provincial certifying or qualifying examination, the individual writing either examination must reach pay level 5, and have five years of military trade experience for the trade that the examination is being written.

The Apprenticeship System

The history of apprenticeship can be traced to biblical times. The early settlers of Canada brought this system of

training with them. One of the major criticisms of this system of training is that in the past quarter of a century, the method of apprenticing has changed very little. The only major change has been the integration of classroom training as a major component of training. In the environment of the classroom, the apprentice learns the theoretical concepts of a trade. Later, these concepts are applied on-the-job in a practical situation.

In describing changes in the apprenticeship system, Muir (1971) gave support to the above statements when he wrote:

> Despite the number of changes that have occurred in technology, in approaches to training, in learning theory and in the function and specialization of the trades, the skills of the trade are still passed from journeyman to apprentice in much the same way as was done under the guild system. The only real major change which occurred in the system of training over the centuries has been the introduction of the trade school into the system (p. 1).

Similar to education, apprentice training is a provincial responsibility that reflects the industrial base of the province or territory. Each jurisdiction has passed legislation which describes the system of apprenticeship and has established an apprenticeship branch to supervise apprenticeship programs. Initially, the legislation that was passed by each of the provinces gave little or no reference to procedures in neighbouring provinces. This action led to the development of separate and different systems of apprenticeship training and certification for the ten provinces and the two territories. Because training and certification requirements differed from province to province, the certified tradesman was literally locked-in to the certifying province.

In 1958, the Interprovincial Standards Program Co-ordinating Committee was formed by personnel of the federal government and members from provincial and territorial apprenticeship branches to: discuss the mutual recognition of apprenticeship certificates, exchange information on apprenticeship training programs, and establish uniform apprenticeship trade standards and examinations. These discussions led to the establishment of a program which is referred to as the "Interprovincial Red Seal Program", (IPRSP). The (IPRSP) is described in detail under a following section of this chapter entitled "Interprovincial Standards Program".

Apprenticeship in Canada

Industrial techniques are continuously changing. There is a constant search for new processes because skilled trades are becoming more and more technical. Employers require that apprentice training include a knowledge of the latest practical skills and theoretical knowledge of a trade. Many educators and industrial trainers agree that such a comprehensive approach of training can only be accomplished successfully in a properly organized and regulated system of apprenticeship which combines both schooling and on-the-job training. In apprenticeship training, there is an agreement that standards can be maintained by having the candidate pass provincial standardized practical tests and written examinations before a certificate indicating journeyman status is issued. This concept of apprenticeship

by the provinces also has the support of the federal government who provides financial assistance to the provinces for their apprenticeship training programs.

In Canada, the apprenticeship program has grown steadily over the past quarter of a century. It is an earning while learning process, a training on-the-job and trade school training program and a certain route to a journeyman's status. Although apprenticeship training is under the jurisdiction of each of the ten provinces and the two territories, the rate of growth has depended largely on the financial support provided by the federal government. Under the Adult Occupational Training Act (1967), the federal government agreed to pay training allowances to all apprentices who have been in the labor force for three or more years. An amendment to the Act permits the payment of training allowances after one year in the labor market.

What follows is a brief description of the apprenticeship program as it is practiced in Canada. These programs, although in alphabetical order by provinces and/or territories, do not indicate a ranking.

Alberta

The period of indenture in most trades is 4 years, however, some only 3 years. Classroom training ranges from three 4 week courses to four 8 week courses for the first three years, and the final year is 12 weeks in duration. There are no

pre-apprenticeship training program in this province but some pre-employment courses in designated trades are offered by Alberta Advanced Education and Manpower, and most of these designated trades require compulsory certification. For a definition of the term compulsory certification, turn to page 126.

British Columbia

Apprenticeship contracts are usually from 2 to 6 years. Formal training is affected through either full day time class attendance for a period of one month in a year, or night school class attendance for a period of six months in a year. Pre-apprentice programs are offered in this province ranging from 4 to 6 months in duration, and certification is compulsory in some trades.

Manitoba

All persons between the ages of 16 and 21 employed in a designated trade must be registered as an apprentice with the provincial Department of Labour. However, a person over the age of 21 may become an apprentice if approval is given by the apprenticeship board in this province. The period of apprenticeship is usually from 3 to 5 years, during which in-school training is provided at the provincial trade schools for 4 to 10 weeks in a year. Certification is non-compulsory in all the trades. For a definition of the term non-compulsory certification, turn to page 126.

New Brunswick

The period for an apprentice to complete an apprenticeship contract ranges from 3 to 6 years. In-school training requirement is established by the trainee attending night classes of 144 hours in a year. Pre-apprenticeship courses are usually 40 weeks in duration at a trade school. It is interesting to note that some programs require the applicant to complete Grade 12 and this could be considered as post-secondary training. All trades require compulsory certification.

Newfoundland

The period of apprenticeship ranges from 2 to 5 years with in-school training lasting from 4 to 12 weeks depending on the trade. Pre-employment courses, which require 9 months to complete, are offered in the district vocational schools. This period of pre-apprenticeship training is counted as one year of credit toward fulfilment of an apprenticeship program. Whether certification is compulsory or not, depends on the trade and the area in which a qualified person wishes to practice.

Northwest Territories

Indenture lasts from 2 to 5 years in duration. Each completed period in 4 equal time divisions consists of 6 weeks of formal in-school training by each apprentice. No pre-apprenticeship courses are in operation in this territory; however, vocational high school graduates are granted credit toward work experience. No certification is compulsory. The Province of Alberta does apprenticeship training for the Northwest Territories in certain trade areas.

Nova Scotia

Training an apprentice requires 3 to 5 years of in-school formal training which ranges from 20 to 40 weeks in duration. Pre-apprenticeship training is offered in this province. Applicants who graduate from vocational schools or adult training programs are given full credits toward their time requirements for indentureship.

Ontario

The length of apprenticeship in this province is calculated in periods which consist of a certain number of hours rather than years. An apprenticeship training program consists of 3 to 5 periods which range from 1,600 to 2,000 hours each. Some apprenticeship programs require both compulsory attendance at a trade school and compulsory certification. Other programs only involve compulsory in-class training and

certification is not required. The formal school training consists of one 8 week and two 7 week full day time attendance. There is a pre-apprenticeship training program of 15 to 18 weeks available to only barbers, hairdressers, and chefs trades.

Prince Edward Island

The period of apprenticeship ranges from 3 to 4 years in duration. Method of training is a full 18 weeks in school. Certification is not compulsory.

Quebec

The apprenticeship system in the province of Quebec is somewhat different from the rest of the provinces. However, with the exception of a few trades such as the printing trade, indentureship does not exist in Quebec, because neither the employer nor the apprentice is bound by an apprenticeship contract. It is for this reason that most of the formal training is done on a pre-employment basis. For example, an applicant may take full time courses in a given specialty which ranges from six months to two years before the individual takes a job as an apprentice. These courses are usually offered by provincial trade schools and apprenticeship centres.

Saskatchewan

Terms of apprenticeship varies from 3 to 5 years in certain trades. However, the trade of Beauty Culture or Barbering requires only 2 years. No pre-apprenticeship training is in operation. Formal in-school training is the responsibility of the Department of Education. Most trades in this province require compulsory certification.

Yukon Territory

The period of indentureship is 1800 hours per year for 4 years in a designated trade. There are 26 trades which have been designated; however, only 3 trades were registered by apprentices. Yukon Territory sends its apprentices to British Columbia for their apprenticeship training in a limited number of trades.

The Alberta Department of Labour, Bulletin number 2, (1957) reported that the following pieces of federal legislation had an affect on the growth of the apprenticeship programs in Canada. The principle of qualifying a journeyman by passing practical tests and examinations had been established by the passing of the Tradesmen's Qualification Act of 1936. Under the terms of this Act, persons are prohibited from engaging in any trade to which the Act applies in any designated area or areas of the province, unless such person holds a certificate of proficiency in the trade. This Act necessitates the attainment of standards of proficiency by examination before

a tradesmen's certificate is issued; it does not make provision for training applicants to enable the individuals to attain the necessary standards. The Apprenticeship Act provides for the organization of such training (p. 9).

Muir (1971) formulated two conclusions regarding the apprenticeship training system in Canada:

> 1. The renewed interest in apprenticeship was sparked by the federal government and their willingness to invest heavily in apprenticeship training.
>
> 2. With the government's support of the system, some of the trade unions were fairly quick to establish the mechanism for restricting entry into the trade and for preventing "illegal men" from practising the trade. These restrictions were endorsed and enforced by the government (p. 19).

Alberta legislated the Manpower Development Act (1976) which defined an apprentice as "a person who is at least 16 years of age, and who enters into a contract of apprenticeship in accordance with Part 3 (Training and Certification of Workers engaged in trades) under which he is to receive from or through his employer instruction and continuous employment based on the amount of work available in a designated trade" (p. 1). This employment provides a program of practical experience in a related technical field of instruction for such a person. Besides the age requirement, regulations must be set up to govern minimum education standards, the allowable ratio of apprentices to journeymen, and allowable minimum wages paid to the apprentice.

Apprenticeship in Alberta

The Tradesmen's Qualification Act, 1936

The Tradesmen's Qualification Act (April 3, 1936) governs the qualification of certain tradesmen. The Statutes of Alberta (1936) stated:

> that the Lieutenant Governor in Council may from time to time designate as a trade to which this Act applies all or any of the following trades, namely, the trade of a mechanic engaged in all or any of the following activities, namely, the construction, building and repair of automobile engines, steam engines, boilers, internal combustion engines, radios, refrigerators and refrigerating machines, the trade of a plumber, the trade of a steam fitter, the trade of a gas fitter, the trade of an electrician, the trade of an electric welder and the trade of an acetylene gas welder, and the trade of a barber, and any other trade in case sixty-six per cent of the persons engaged therein have petitioned the Lieutenant Governor in Council to designate the same as a trade to which this Act applies; and prohibit any person from engaging in or following any such trade who is not for the time being the holder of a subsisting certificate of proficiency issued pursuant to this Act, (p. 205).

The Welding Act, 1941

The Welding Act which came into force on April 8, 1941, governs the trade welding. The Statutes of Alberta (1941) stated:

> that upon the recommendation of the Minister, the Lieutenant Governor in Council may from time to time by order, make rules and regulations requiring the examination of welding workers; prescribing standards of proficiency to be attained by any person upon examination before the issuance to him

> of any certificate of proficiency as a welder under this Act; providing for the issuance of certificates of proficiency which may be of one or more classes; prescribing the method of the installation, protection, use, maintenance, repair and extension of welding equipment; prescribing the fees to be paid for proficiency certificates, permits, inspections, tests and approvals of any welding equipment and of plans and specifications relating thereto, and as to the time and manner in which such fees shall be paid; as to any other matter or thing, the doing of which is permitted by this Act or which has for its object the avoidance of danger to life and property by reason of the installation, repair or use of any welding equipment or for which no specific provision is made by this Act for the purpose of carrying out the provisions of this Act according to the true intent thereof, (pp. 367-370).

The regulations of the welding trade in Alberta are not governed by only the Welding Act but also are subject to the Apprenticeship Act. The Welding Act is administered by the Welding Branch of the Department of Industries and Labour. This branch is responsible for the issuance of proficiency certificates which may be more than one class of certification according to the provisions of the Act. However, the Welding Act does not provide for the training of apprentices. This practice is left to the Apprenticeship Act. The trade of welding is defined for the purposes of the Apprenticeship Act as the joining together or cutting apart of metals in the molten state without the use of pressure or blows. Under the Apprenticeship Act regulations, if an apprentice in the welding trade successfully completes three years of apprenticeship program, and passes the final examinations, he is issued with a completion of apprenticeship certificate. However, this certificate does not entitle the holder to operate as a journeyman welder. The individual must then apply to the Welding Branch for a

first class journeyman's certificate, (p. 22).

The Apprenticeship Act, 1944

The apprenticeship program came into existence with the passage of the Apprenticeship Act of 1944. This Act became effective in January, 1945. The apprenticeship program was brought into effect largely as a result of recommendations by the Sub-committee on Industry of the Post-War Reconstruction Committee. This Committee viewed apprenticeship as a training ground for future executives as well as method of producing journeymen (p. 8).

In 1966, the Apprenticeship Board (Alberta) made the following statements about apprenticeship training in its publication "Training Today for Tomorrow".

> An apprenticeship training program under the provisions of the Apprenticeship Act has its beginnings for a trade or industry when those (or their representatives) engaged in that trade or industry make petition to the Minister of Labor for designation under the Act. Apprenticeship in a designated trade begins for a young man when he and his employer jointly apply to the Apprenticeship Board for approval and registration of their proposed apprenticeship. Contracts are signed by all concerned. Providing a broad working experience and on-the-job training is the employer's responsibility. Technical school training is provided at public expense - - costs being shared equally by the Provincial and Federal governments under the provisions of the Technical and Vocational Training Agreement and the Apprenticeship Agreement. Courses are offered mainly at the Northern Alberta Institute of Technology and the Southern Alberta Institute of Technology.
>
> Standards of training and competency are established and maintained by the Apprenticeship Board working in co-operation with the management and labor in industry and with personnel of the technical schools.

> Provisions are made to award credit to those who approach apprenticeship with a background of technical education and experience. The opportunity of education upgrading is provided for those who are selected by industry and who are unable to display the competency in basic educational skills considered essential for the successful performance in a particular program. All who serve the working time, complete the technical school program and pass established examinations are awarded the Completion of Apprenticeship Certificate. (Preface)

Alberta Advanced Education and Manpower, Apprenticeship and Tradesmen's Qualification Branch on Apprenticeship Training Program (1974) summarized the regulation requirements for the term of apprenticeship, the ratios of apprentices to journeymen, and the educational requirements for three trades in Alberta. For illustrative purposes only, the regulations for the trade of Radio Technician will be used as an example:

Term of Apprenticeship:

> Radio Technician. Except as otherwise provided, the term of apprenticeship consists of four periods of twelve months each, and each period consists of not less than eighteen hundred hours of employment, including time spent attending courses. Where an apprentice does not accumulate eighteen hundred hours in any twelve month period, he may not advance to the next period until he has accumulated the required number of hours (p. 48).

Ratio of Apprentices to Journeymen:

> Radio Technician. A person engaged in the trade of a radio technician and who employs one journeyman or is himself a journeyman may employ one apprentice and for each additional journeyman he employs, he may employ one additional apprentice (p. 48).

Educational Requirements:

> Radio Technician. A person may become an apprentice in the trade of a radio technician only if, (a) he is sixteen years of age or older, and (b) he has at least a grade ten education, with mathematics 10 or mathematics 12, or its equivalent, or he qualifies under subsection (2) (p. 48).

For the Radio Technician trade subsection (2) states that the Director may authorize a person with less than the education required to become an apprentice if he is recommended by a local advisory committee and passes an examination prescribed by the Director and attains a pass mark set by the Apprenticeship Board for the examination (p. 48).

The major aim of the Apprenticeship Act was to provide establishment of a Provincial Apprenticeship Board to advise the Minister of Labor on all matters concerning the apprenticeship system. This Board consists of five members: one chairman, two people from industry, and two people from organized labor. The chairman usually is appointed by the government to function as the director and administrator of apprenticeship in the province. The director is assisted in administration by a staff of field supervisors and subordinates who are charged with the responsibility for the technical aspects of the system. Other personnel include course co-ordinators who are charged with the responsibility to organize trade school programs and to administer various certification examinations.

Besides these groups, there are provincial and local advisory committees. The duties of the local advisory committee are to hear complaints from employers and apprentices in

subject matters that pertain to the training of apprentices. From its findings, the committee makes recommendations to the Provincial Apprenticeship Board. The Provincial Advisory Committees are made up of members selected from each local advisory committee. It is the function of these Provincial Committees to make regulations regarding trade or trades with respect to the following:

1. Qualifications concerning the age of apprentices;
2. Length of time for apprenticeship;
3. The number of apprentices who may be apprenticed to each employer;
4. The content of the courses to be given at the trades-training school or centre;
5. The establishment of standards of proficiency to be reached during each year of apprenticeship and the setting of the final standard of competency upon which journeyman status is granted; and
6. To conduct such practical tests and written examinations as may be deemed necessary to prove attainment of the desired standards (Alberta Department of Labour, 1957, p. 10)

The training programs which led to journeyman certification is under the direction of the Alberta Advanced Education and Manpower, Apprenticeship and Tradesmen's Qualification Branch. This Branch is responsible for: licensing of tradesmen, the recognition of trade courses, and the certification of technicians. For example, if an ex-trades-person of the Canadian Armed Forces wishes to obtain civilian certification, this individual must apply to the Alberta Advanced Education and Manpower, Apprenticeship and Tradesmen's Qualification Branch on prescribed forms available from six regional offices:

Edmonton, Calgary, Lethbridge, Grande Prairie, Red Deer, and Fort McMurray.

The apprenticeship application is signed by the apprentice and the employer. Upon approval of this application by the Apprenticeship Board, contracts are drawn up, signed, and registered with the Apprenticeship and Tradesmen's Qualification Branch. The apprentice receives then, an identification card and becomes eligible for the benefits of the program such as trade training courses designed for the particular trade without charge; minimum rates of pay that range from 45 per cent to 90 per cent of the prevailing journeyman wage, depending on the trade and the year of apprenticeship.

Apprenticeship Opportunities (1976-77) stated that the awarding of apprenticeship contracts is governed by the following regulations: an apprentice must be at least 16 years of age; an apprentice must have a basic minimum education depending on the trade or pass a prescribed entrance examination; and a prospective apprentice must have employment with an employer who is a Journeyman. The employer and the apprentice must be prepared to enter into an apprenticeship agreement (p. 3).

Accelerated apprenticeship training can be arranged for applicants who have taken training programs in a recognized educational institute applicable to the specific designated trade. Work experience may be recognized upon an employer's recommendation. Apprentices under contract are required as part of the Apprenticeship agreement to attend trade training courses designed for the particular trade. These are short

courses, without charge, ranging from 4 to 12 weeks in each year of apprenticeship and are taught at Alberta Colleges and Institutes of Technology. The period of apprenticeship in most trades are four years in duration. The entire training program is established and periodically reviewed by Advisory Committees of employers and employees working in conjunction with training institutes and consultants from the apprenticeship branch.

External examinations are conducted by the Alberta Apprenticeship Branch and by the training institutes at the end of the trainee's course work. In addition, an employer's assessment of the trainee's work experience is also required. Student's progress reports for course work and examination results are provided by the Alberta Apprenticeship Branch to the employer and the apprentice. Passmark for Alberta Apprenticeship examinations are normally 65 per cent, and supplemental examinations may be administered. Those applicants who fail their course work must repeat the course concerned. Wage increases are dependent on course completion, acceptable work experience, and satisfactory job performance.

When the period of apprenticeship has been served and all criteria have been met, the apprentice is certified as a qualified tradesman. In certain trades, it is now possible for graduating apprentices to qualify for the Interprovincial Red Seal, (discussed in a subsequent section of this chapter).

The Manpower Development Act, 1976

In 1975, the Cabinet of Alberta began to realign its Ministerial portfolios. This realignment resulted in the formation of the Department of Advanced Education and Manpower. The Manpower Division of this Department was responsible for administrating the following Acts: The Tradesmen's Qualification, The Welding, and The Apprenticeship.

In 1976, Alberta legislated the Manpower Development Act. This Act repealed the three previous Acts when it stated the following:

> Wherever a reference is made to The Apprenticeship Act, The Welding Act or The Tradesmen's Qualification Act in any statutory provision not amended by this Act or in any regulation, order, direction or other instrument in force in Alberta, the reference shall be deemed to be a reference to The Manpower Development Act. Any order, regulation, direction, appointment or contract made, given or approved under The Apprenticeship Act, The Welding Act or The Tradesmen's Qualification Act that is in force upon the commencement of this Act shall continue in force and shall be deemed to have been made, given or approved under this Act (p. 21).

The annual Alberta Apprenticeship Newsletter for 1976 contends this information on the Manpower Development Act:

> provides restructuring and expansion of the Provincial Apprenticeship Board and Advisory Committee, along with some reassignment of duties. Fines for violation of compulsory portions of the Act have been updated and made applicable to both employers and employees. Provision is made to transfer trades under the Apprenticeship Act, the Tradesmen's Qualification Act, and the Welding Act to the Manpower Development Act. To appropriate coverage under the Manpower Development Act, all apprenticeship and certification programs presently in use will be continued to function without interruption (no page number given).

The Interprovincial Standards Program

The Interprovincial Standards Program is to increase the mobility of journeyman throughout Canada in the construction, maintenance, repair, and service trades. This Program, under the terms of the British North America Act, stated that each province and territory has the responsibility for setting occupational qualifications, and the training and certification of tradesmen (Department of Manpower and Immigration 1975, p. 1).

Because of trade development needs in different geographical areas of Canada, a variety of provincial certification standards that developed across the nation within the same trade were encountered by tradesmen who moved from province to province. The problem of worker mobility, where workers are constantly moving from place to place in search of work created some difficulty for the skilled tradesman whose best employment opportunities may take the individual outside the certifying province. This, in essence, as previously stated "locked-in" the skilled tradesman to that province. Therefore, to increase the mobility of skilled workers from one part of Canada to another, the provinces and the territories, in cooperation with the federal government in 1958 implemented the Interprovincial Standards Examination Program. The purpose of this Program was to establish uniform apprenticeship trade standards and examinations throughout Canada. More

recently, this program was extended to all journeymen in most of the certifiable trades in Canada.

In a pamphlet distributed by the Alberta Apprenticeship and Trade Certification Branch entitled "Interprovincial Standards Program 1975", interprovincial status in specified skilled trades can be gained by the journeyman:

1. (a) either graduating from a recognized provincial or territorial apprenticeship training program,
   or by
   (b) obtaining a journeyman's certificate from the provincial or territorial authorities; and
2. (a) passing the Interprovincial Standard Examination for that trade (No page number given).

Since the inception of the Interprovincial Standards Program, there has been an increased number of tradesmen who have completed an apprenticeship program for which they receive the Interprovincial Red Seal affixed on their Journeyman's certificate. Recently, including Quebec, all the provinces and territories are participating in the Interprovincial Standards Program by recognizing the achievement of tradesmen who have obtained the Interprovincial Red Seal in another jurisdiction other than the receiving province. To honour the qualification of these trades-people, the province who receives these journeymen does not require them to write the examinations normally written for journeyman certification. One of the major advantages of the Interprovincial certification is like having a passport to practise

an individual's trade in all the provinces and territories without re-examination of ones qualifications.

Both the Interprovincial Standards Program and the Apprenticeship Training Program are a benefit to personnel in the military sector for the following reasons: experience and training gained by trades personnel in the Canadian Armed Forces can be recorded on a certified record of training for an apprenticeable trade and receive credit toward the Interprovincial Standards Program. A military trades-person who receives the Interprovincial Red Seal affixed on a Journeyman's certificate enjoys the same privileges as a civilian counterpart, that is, the Journeyman's certificate is portable and recognized by participating jurisdictions.

Currently, there are 16 trades that receive recognition as Red Seal trades in Canada. These trades include: Auto Body Mechanic; Bricklayer; Carpenter; Cook; Electrician; Heavy Duty Mechanic; Instrument Mechanic; Machinist; Millwright; Motor Mechanic; Painter and Decorator; Plumber; Radio Technician; Refrigeration Mechanic; Sheet Metal Mechanic and Steamfitter (Alberta Apprenticeship Opportunities, 1976-77, p. 4).

Formalization of apprentice training under provincial or territorial legislation took place at different times in the various provinces and territories. Apprenticeship training which is a provincial responsibility was conducted with little reference to the procedures followed in other provinces.

To negate this problem, Mr. Frank Ellis, an employee of the Federal Government developed a chart showing the designated trades for each province so that a comparison of each provincial apprenticeship program could be made. An example of this chart could be found in Appendix B, page 205.

The Ellis Comparative Chart

Periodically, the Canada Manpower Training Branch has up-dated the Ellis Comparative Chart as apprenticeship programs are added or deleted in each province or territory. This charting procedure for apprenticeship programs was named, "Ellis Chart" by the members of the Interprovincial Standards Program Co-ordinating Committee. A committee of apprenticeship directors from all jurisdictions in Canada annually discusses the mutual recognition of certificates, and exchanges information on apprenticeship training programs.

Related Research

From a review of the standard indices used in educational research, from an information retrieval search of the data base of the Educational Resources Information Center (ERIC), and from correspondence with both the Office of Information, United States Department of Labor, and the Department of Labor, Manpower and Immigration (Canada), it was found that there were no studies completed on civilian accreditation of military skills that had implications for this study. However, information from the Department of Labor (United States) did state that this department was working with both the Army, the Navy, and the Trade Unions in that country on the problem of recognizing military tradesmen for civilian certification.

A number of related studies were identified that have implications for this study. The study conducted by Richardson (1967) on the Transferability of Certain Military Skills and Experiences to Civilian Occupations dealt specifically with the transferability of military skills to a civilian occupation. This researcher did not consider the problem of recognizing skills developed in the military for trade certification in the civilian sector. The Richardson study does not have implications for this study because it involved the transference of skills acquired by both skilled and non-skilled personnel while on duty with the United States Air Force to a civilian occupation.

The results of the Richardson study show that from both officers and enlisted men who were discharged from the United States Air Force in 1965-66 that the potential employability for ex-servicemen to be quite high for ex-officers who completed college and who were proficient in managerial and administrative skills; and for ex-enlisted men who completed high school and who learned a marketable or employable skill in the Air Force.

The members of the sample, 1200 separatees, were found to be employed most frequently in the industrial and production sectors. Ex-enlisted men who held non-technical jobs in the Air Force had difficulty in securing satisfactory civilian employment. The lack of success experienced by these people portrays the nature of the transferability process. However, ex-service personnel with technical skill had little difficulty marketing their military training. Richardson found that participants who had experience with combat-oriented services or training encountered serious obstacles in locating a civilian job.

Medical Trained Servicemen

From correspondence with the Manpower Administration of the United States Department of Labor, it was learned that the Versatile Employment of Health-Trained Servicemen (VEHTS) is concerned with the effective placement in civilian hospitals of medically trained servicemen who were discharged from the Armed Forces.

In the follow-up study of medically trained personnel

placed in civilian paramedical positions from July 1971 to June 1973 that was conducted by "VEHTS", it was found that discharged medically trained servicemen are the products of the largest and most comprehensive medical training program in the United States. These veterans were trained and experienced in a variety of medical occupations and situations. According to the Medical Veteran Utilization Manual, December, 1973, military medical departments operate more than 200 hospitals and nearly 500 dispensaries to care for 10 million persons, nearly two-thirds of whom are civilian dependents of service personnel or are retired military personnel. The training these veterans received included a full range of medical and health services from battlefield medicine to giving an innoculation.

In a number of civilian hospitals in the United States, where administrators have recruited medically trained veterans for paramedical positions, the following have been experienced:

1. The veteran has been well trained and experienced in a medical system with high standards, providing a wide spectrum of care for servicemen, veterans and their dependents of all ages.

2. The allied health roles in military medical service are similar to those in civilian health services. The capabilities of the veteran cover a broad range of civilian hospital manpower needs.

3. In many cases, veterans can qualify for civilian health occupations with a minimum of training. Where further training is required, veterans make superior trainees, as evidenced by their ability to complete military training courses and to demonstrate proficiency.

4. Recently discharged veterans have no job attachment and are likely to be available to move in response to an attractive job offer.

5. Recruitment is facilitated by contracts with the MEDIHC Co-ordinator in your state, the Transition Officers at nearby military installations, and the Veterans Employment Representative of the State Employment Service.

6. Some hospitals have found that a well-planned program for utilization of veterans reduces training costs and turnover and increases staff productivity (p. 5).

Each year, the medically trained personnel of the Armed Services of the United States who separate from the services have no credentials, no accreditation of educational programs, and they completed no professional certification or state licensure. No civilian medical associations such as the American Medical Association have established criteria to recognize the training received in the military by medically trained veterans. There are, however, a number of paraprofessional medical associations that are willing to certify medical trained veterans on the basis of their military training and experience, such associations include the Registry of Emergency Medical Technicians - Ambulance, and the American Society of Radiologic Technologists.

Military Occupations

In July, 1963, issue of "Employment Security Review", of the United States Department of Labor reported on a survey of adult formal training that was conducted in consultation with a population survey. The results of the survey of adult formal training showed that the training the adults received in the Armed Forces was the most important source of skills for the

following three occupations: Airplane Mechanics; Bakers; and Dental Technicians. Military training was an important secondary source of skills for eleven other occupations, yet military training was the least used of any training by ex-service personnel in performing tasks on civilian jobs (pp. 1-40).

Evaluation of Armed Services Experience

Turner (1968) conducted a study on, "An Evaluation Guide" that would assist college officials to determine the amount and type of credit that was to be granted to students for educational experiences they acquired in the Armed Forces. The evaluation guide was a two part instrument. The first part of the guide dealt with 2,178 formal service school courses, which represented 8,811 formal service school training programs. Each training program was analyzed, evaluated, and summarized in terms of the following: training program; length and location of training; brief statements on the objectives of the course; the instructional program; and the credit recommendations. The second part of the evaluation guide described credit and advanced standing that would be granted to an ex-service person who had successfully written the following examination: the General Educational Development Test, and the College-Level Examination. The purpose of these tests was to enable adults to earn a high school equivalency certificate, or to qualify for admission to college, as well as to achieve advanced standing for educational experiences acquired in the service. The major purpose of the

guide was to develop a military classification index for each of the five services and the Department of Defense granted advanced credit toward military work experiences in the Armed Forces.

Army Enlisted Military Occupations

The American Council on Education (1974) was awarded a contract by the Department of the Army in the United States to conduct a research investigation on the feasibility of using the Army Enlisted Military Occupational Specialty Classification System as a basis for relating skills, competencies, and knowledge required for proficiency in a given military occupation to those acquired through apprentice training programs and course work in post-secondary curricula (p. IX). The study had the following four dimensions: The first dimension was to verify and code soldiers' occupational skills, competencies, and knowledge according to the Army Enlisted Classification System, and to assess these by using the Enlisted Evaluation System. The second dimension was to design an experimental evaluation system that would relate skills, competencies, and knowledge required for proficiency in a given military occupation to those acquired through apprenticeship training programs as well as courses in post-secondary curricula. The third dimension was to test the system through evaluating a sample of 100 military occupations. The fourth and final dimension was to determine whether it was feasible to apply the evaluation system to all or most of the

Army Occupations found in the occupational structure of the United States Army.

The 100 enlisted military occupations were selected from a total of 480 army military occupations. The results of this study indicated that not all soldiers learned their military occupational specialty skills, competencies, and knowledge through formal training. Many of those involved in the study learned their skills informally through self-instruction, on-the-job training, or from practical work experience.

Apprenticeship for Sailors

The March, 1976 "Newsletter", of the United States Department of Labor, stated that there has been little or no way for former naval personnel of the United States Navy to show civilian employers, or apprenticeship committees a record of training experience and accomplishments acquired in the Navy. However, through the Navy and Labor Agreement on Apprenticeship Standards, this has been negated.

Under this Agreement, enlisted naval personnel in selected Navy occupations can receive civilian certification while on active duty. This can be accomplished under the agreement when a sailor registers for the program, and completes Navy qualifications for an apprenticeable occupation, as well as completing a formal apprenticeship program that is patterned after those found in private industry. Sailors who participate in this apprenticeship program upon separating or retiring have documented records of training in an apprenticeable occupation.

This apprenticeship program is currently available to graduates in the following three trades: Navy Instrumentation; Photography; and Mess Management. Completion of trade training qualifies an enlisted Navy person in the following equivalent civilian occupation: Office Machines Mechanic, Watch-clock Repairer; Commercial Photographer, Camera Repairer; and Hotel and Restaurant Cook.

Once the sailor has registered for this apprenticeship program, the Navy's Education and Training Command, the Labor Department's Employment and Training Administration, and a representative from private industry determine the term of apprenticeship that must be served in each occupation. When this has been established, all Navy training and experience associated with the trade are documented in a Work Experience Log Book. The Log Book is issued to all registered Navy apprentices. The major purpose of the Log Book is to identify the following components of the program: occupation; work schedule; hours of training; and records of immediate supervisor's certification showing satisfactory completion of each training schedule. Sailors who are registered as apprentices are able to receive the same certification for Navy training through military occupational training programs as civilian counterparts certified through apprenticeship programs. These sailor apprentices earn credit toward the required amount of training for civilian journeyman status in nationally recognized apprenticeable occupations.

Apprenticeship for Soldiers

The July, 1975, "Newsletter", of the United States Department of Labor, reported that uniformed skilled craft workers of the United States Army, for the first time, could become involved in a formal apprenticeship program. According to this report, the Armed Forces is the single largest human resources' training and development agency in the United States. The Army conducts vocational training in various occupations that are found in the civilian labor force. Through collaboration with the Bureau of Apprenticeship and Training of the Department of Labor, Manpower Administration, Army Commanders were given the authority to sponsor apprenticeship programs in apprenticeable occupations that are patterned after those in private industries. These individual programs for military personnel were developed in consultation with labor and management representatives for the specific trade from the civilian sector.

In developing an apprenticeship program for Army personnel, the following apprenticeable occupations were first considered: operation and repair of heavy equipment such as bulldozers, road graders, and mobile cranes. Other apprenticeship programs that were involved included: health care, food services, transportation, and automotive maintenance. To be eligible for one of these apprenticeship programs, an apprentice-soldier must meet the following criteria: be on active duty with the United States Army; be at least 17 years of age; met the Army's physical

requirements and educational requirements; and achieved an acceptable score on aptitude tests for the selected occupation. Once admitted to the program, Army training and experience are documented in a Work Experience Log Book which is issued to each registered Army apprentice. The major purposes of this Log Book are to identify: the occupation; work schedule; hours of training; and for the immediate supervisor to record satisfactory completion of each training schedule toward certification. Under this system, an ex-soldier upon separation from the service will be provided with a certified record of training in an apprenticeable occupation.

As a result of this program, duplication of training in civilian skills should be reduced to allow the ex-soldier to advance faster in a comparable civilian occupation, and another result of this program should gain certification toward journeyman status in nationally recognized apprenticeable occupations much quicker.

Summary

This chapter presented a review of the literature that was devoted to federal legislation on vocational education both in Canada and the United States. Federal legislation that had an affect on the growth of both vocational and technical education in Canada and the United States through federal funding of these programs.

An integral part of the content of this chapter was an

explanation of the clustering of vocational education programs of studies by leading vocational educators in North America. Also included in this chapter was the effect made by the military since integrated to cluster military occupations into career fields.

A section of this chapter reported that Training Command of the Canadian Armed Forces has adopted a common core method of training. The major purpose of this kind of military training was to reduce classroom instructors, training aids, and technical schools.

Military personnel who had acquired military technical skills were unable to show civilian agencies their experience and accomplishment that they developed in the Canadian Armed Forces. The Military/Civilian Training Accreditation Committee is working in collaboration with military personnel and civilian agencies for the purpose of securing apprenticeship or journeyman certification of skilled military tradesmen. The major aim of this Committee is to have service personnel receive equivalent civilian tradesmen's certification from civilian agencies while service personnel perform their trade in the Forces.

In certifying tradesmen, the training of an apprentice is under the jurisdiction of each province and territory. Training of apprentices in these jurisdictions is largely dependent on the financial support from the federal government. This financial support led to the following provincial legislation: the Tradesmen's Qualification Act of 1936, and the Apprenticeship Act of 1944. The major purpose of the

Tradesmen's Qualification Act was to provide standards of proficiency by examination, and the Apprenticeship Act was to provide a training ground for future journeymen.

The Interprovincial Standards Program came into existence twenty years ago with the major purpose of increasing the mobility of skilled individual craft workers in Canada. This Program is commonly referred to as the "Red Seal Program".

The Ellis Chart and its use in identifying apprenticeship programs that are common in Canada was explained.

Several related studies conducted by various agencies in the United States were identified and a number of them that have implications for this study were reported. These included the study on the transferrance of skills acquired by skilled personnel of the United States Air Force for civilian employability and the study conducted by VEHTS which was a follow-up study of medically trained servicemen, discharged from the United States Armed Forces who were employed in a number of civilian hospitals in the United States.

The evaluation guide developed by Turner (1968) that would assist college administrators to determine the amount and type of credit to grant for service related educational experiences was reported.

Since June 1974, a movement has been started through the cooperation of the Bureau of Apprenticeship Training of the Department of Labor, various trade unions, and personnel from the United States Army and Navy to recognize military trade experience as accreditable toward a similar civilian

occupation.

In the following chapter, the analysis of data for the study is presented.

CHAPTER III

ANALYSIS OF DATA

INTRODUCTION

Chapter II dealt with a review of the literature that was primarily concerned with the clustering of vocational education both in Canada and the United States as well as a review of federal legislation in Canada and the United States that provided funds for vocational education. Part of this chapter was devoted to a description of the reorganization of the Canadian Forces. Also included in Chapter II was a description of the apprenticeship system in Canada with emphasis on Alberta. The progress that was being made by the military in the United States as it works co-operatively with the Department of Labor and union organizations to receive apprenticeship credit for selected military trades was reported in the second chapter.

This chapter summarizes the data that were collected with the research instrument which are in tabular form and include verbatim comments made by participants.

Percentage of Returns

It will be recalled from Chapter I that 100 per cent of the participants returned their instruments. Although all 12

participants returned instruments for analysis, it was found that some of the instruments were returned with questions that were not completed. Participants who returned instruments with incomplete questions also provided supporting documents of information for the researcher to review.

Although the Director of the Apprenticeship Branch for Quebec completed the research instrument in English, included was a covering letter in French. Because this letter was thought to have significance for the study, the letter was translated into English by a French teacher employed by the Edmonton Public School Board.

Data Analysis

Because of the small number of returned instruments (12), the collected data were tabulated by hand. Part of the data analysis included reviewing comments that were placed in the "Comment" section of each question by participants.

The first question on the research questionnaire asked:

> "Does the Apprenticeship Branch in your province (territory) at the present have a set of guidelines that are used to equate military occupations with civilian occupations?"

The response to this question required a simple "yes - no" answer. Data in Table 1 illustrate that of the 12 Directors involved in the study, 8 of the Directors (7 provincial and 1 territorial) responded "yes", inferring that a set of guidelines for equating a military occupation with a civilian occupation did exist in their apprenticeship branch.

TABLE 1

GUIDELINES USED BY PARTICIPANTS FOR EQUATING MILITARY OCCUPATIONS

GUIDELINE USED	PROVINCE AND/OR TERRITORY												
	ALTA.	B.C.	MAN.	N.B.	NFLD.	N.S.	N.W.	ONT.	PEI.	QUE.	SASK.	YUK.	TOTAL
YES	X	X		X			X	X	X	X	X		8
NO			X		X	X						X	4

The Directors from 3 provinces and 1 territory submitted a "no".

Computing a simple percentage, 66.66 per cent of the participants used some form of guideline when reviewing the records of service persons for granting credit toward journeyman certification.

The comment section of Question 1 gave each participant the opportunity to write in comments related to this question. Below are verbatim quotes that were written in the comment section by 11 of the participants. These quotes are in alphabetical order by province and/or territory. This method of reporting comments made by participants will be followed throughout this report.

Alberta:

> "We have received the military classification and have provided a provincial statement on acceptability."

British Columbia:

> "To determine similar curriculum content in the training programs. We do a comparison of CFP 123 (2) [A Description of the Canadian Forces Men's Trade System] with our Apprenticeship program in any specific trade area."

Manitoba:

> "Not considered necessary, as our trade regulations spell out the requirements for eligibility for examination."

New Brunswick:

> "We require a set number of years of experience. An individual's military records will supply sufficient information to determine if experience parallels to civilian trade."

Newfoundland:

> "We accept training in military occupations for trades certification in the designated trades area."

Northwest Territories:

> "Equivalencies prepared by the province of Ontario with respect to trade content in that province was distributed to us Sept. 1974."

Ontario:

> "Refer to the province of Ontario Guideline Chart which is self-explanatory."

Prince Edward Island:

> "Canadian Forces Trade Specification, CFP 123 (2) part four."

Quebec:

> "Only occupations related are the building trades."

Saskatchewan:

> "Guidelines presently are restricted to recognition of trade experience rather than acceptance of a specified pay level in a Military Code Classification as equivalent to our Provincial Journeymen Certificate. Decision made by comparing tasks listed in the Military Occupation with those as defined under our legislation."

Yukon:

> "Have not received requests for this service."

Question 2 asked:

> "What are the procedures presently in use by the Apprenticeship Branch in your province (territory) for accrediting military occupations?"

The data collected with this question were used in designing Table 2. Data in this table indicate the procedures that a military trades-person must follow in dealing with trade

TABLE 2

PROCEDURES USED BY PARTICIPANTS FOR ACCREDITING MILITARY OCCUPATIONS

PROCEDURES USED	PROVINCE AND/OR TERRITORY												
	ALTA.	B.C.	MAN.	N.B.	NFLD.	N.S.	N.W.	ONT.	PEI.	QUE.	SASK.	YUK.	TOTAL
APPLICATION TO QUALIFICATION AND CERTIFICATION BRANCH	X	X	X	X	X	X	X	X	X	X	X	X	12
PROOF OF REQUIRED LENGTH OF TIME	X	X	X	X	X	X	X	X	X	X	X	X	12
PROOF OF FORMAL TRAINING					X			X	X	X	X	X	6
PROOF OF MINIMUM EDUCATION									X				1

certification agencies in order to receive civilian certification for military trade experience. Two of the most prevalent procedures which are used by all provinces and territories are for the military person to receive civilian certification is for that person to make application to the Provincial Qualification and Certification Branch Office for permission to write the trade examination, and to present proof that the required length of time has been actively spent in the designated trade.

A procedure that is used by apprenticeship branches in 5 provinces and 1 territory is to require that a service person show proof of formal training in a military trade when that person makes application for journeyman certification with their agency. Proof of formal training in a military trade must be shown in Newfoundland, Ontario, Prince Edward Island, Quebec, Saskatchewan, and Yukon Territory.

Prince Edward Island is the only province where proof of minimum education is used as a procedure for recognizing military trade experience.

The following are verbatim comments that were written by participants to Question 2.

Alberta:

> "If apprenticeship is recommended, proof of formal training in the designated trade, and proof of minimum education is required." [This statement applies only to apprenticeable trades.]

New Brunswick:

> "We have no formal training or educational requirements for writing of trade exams."

Newfoundland:

"Proof of minimum education is required if applicant requires training. This is a qualification under ones registering procedures."

Northwest Territories:

"Proof of formal training in the designated trade is useful, but if the applicant can provide proof of the required time in the trade, no technical training is required."

Ontario:

"If the applicant has present proof of the required length of time actively employed in the designated trade and present proof of formal training in the designated trade, then he does not require to show proof of education. However, all on-the-job experience must be accumulated after the tradesman's 16th birthday."

Prince Edward Island:

"All the information is required on our official application form."

Quebec:

"Record of Qualification provides enough information about former Canadian Armed Forces employees."

Saskatchewan:

"An individual must apply to the Provincial Tradesmen's Qualification and Certification Branch Office for permission to write the trade examination; must present proof of the required length of time actively employed in the designated trade; and must present proof of formal training in the designated trade are all part of the procedures applicable to tradesmen in this province. In some instances, additional credit is given for courses in comparison with equivalent periods of employment."

Yukon:

"All applicants must apply to the Provincial Tradesmen's Qualification and Certification Branch Office for permission to write the trade examination; must present proof of the required length of time actively employed in the designated trade; and must present proof of formal training in the designated trade."

On the research instrument, Question 3 was phrased in this manner:

> "What are the criteria used in your province (territory) to identify an appropriate level of military experience in a trade for civilian certification?"

It is evident from data in Table 3 that one of the criteria used by all the provinces and territories is that a service person must provide proof of time spent on-the-job in a military occupation when applying for civilian certification. In the jurisdictions of British Columbia, Ontario, Prince Edward Island, Quebec. Saskatchewan, and Yukon Territory, proof of formal training is an additional criterion that must be met by service personnel wanting to secure civilian certification.

In addition to proof of time spent on-the-job, and proof of formal training, Prince Edward Island also requires that service personnel provide proof of minimum education as one of its three criteria. This is the only province that requires these three criteria of military trades-people. Quebec also requires three criteria. These three criteria are: that personnel from the service must submit a transcript of their high school marks, proof of time spent on-the-job and proof of formal training (military).

Seven of the 12 participants provided the following comments to Question 3.

Alberta:

> "Proof of acceptable work experience in the trade in keeping with regulation requirements."

TABLE 3

CRITERIA USED BY PARTICIPANTS TO IDENTIFY APPROPRIATE LEVEL OF MILITARY TRADE EXPERIENCE FOR CIVILIAN CERTIFICATION

CRITERIA USED	PROVINCE AND/OR TERRITORY												
	ALTA.	B.C.	MAN.	N.B.	NFLD.	N.S.	N.W.	ONT.	PEI.	QUE.	SASK.	YUK.	TOTAL
PROOF OF TIME SPENT ON-THE-JOB	X	X	X	X	X	X	X	X	X	X	X	X	12
PROOF OF FORMAL TRADE TRAINING		X						X	X	X	X	X	6
PROOF OF MINIMUM EDUCATION									X				1
HIGH SCHOOL TRANSCRIPT										X			1

British Columbia:

> "Must have documentary evidence of hours worked in the trade according to the Provincial Regulations governing applications for Trade Qualification. In a designated trade, the trade name must be the same as used in the province."

Manitoba:

> "Under proof of time spent on-the-job, providing that the military trade is wholly compatible with the civilian trade."

Newfoundland:

> "Proof of time spent on job should indicate type of work performed and level of proficiency that work can be done by an applicant."

Ontario:

> "In addition, a major criterion is the level achieved."

Saskatchewan:

> "Time on-the-job in some instances may only represent a portion of the duties within a particular military classification in that the duties described overlap into other civilian trade definitions."

Yukon:

> "Same as for all applicants."

To determine the maximum amount of credit that a serviceman could receive for time spent in a military occupation, Question 4 was phrased to elicit this information. This question asked:

> "From the following list of military trades, please identify those trades that are designated in your province (territory). This question is intended to be used in trade areas where the type of work performed is lower or lesser than the Journeyman level, but recognizable towards Journeyman certification."

Data in Table 4, "Maximum Amount of Credit Granted to Military Applicants by Participants Toward Journeyman

TABLE 4

MAXIMUM AMOUNT OF CREDIT GRANTED TO MILITARY APPLICANTS TOWARD JOURNEYMAN CERTIFICATION BY PARTICIPANTS

MILITARY TRADE CODE	MILITARY TRADE TITLE	MAXIMUM AMOUNT OF CREDIT GRANTED TO MILITARY APPLICANTS											
		PROVINCE AND/OR TERRITORY											
		ALTA.	B.C.	MAN.	N.B.	NFLD.	N.S.	N.W.	ONT.	PEI.	QUE.	SASK.	YUK.
041	FIELD ENGINEER								NO RESPONSE		NO RESPONSE		
052	LINEMAN		3[1]			N[3]	4	4		4		4	
131	PHOTOGRAPHIC TECHNICIAN												
221	RADIO TECHNICIAN	4[2]										4	
223	TELETYPE AND CYPHER TECHNICIAN												
224	COMMUNICATIONS TECHNICIAN							4				4	
231	RADAR TECHNICIAN							4				4	
251	RADIOMAN (SEA)												
252	COMMUNICATIONS TECHNICIAN (SEA)												

1 - 3 years credit granted toward Journeyman certification
2 - 4 years credit granted toward Journeyman certification
3 - no response

TABLE 4 (continued)

MAXIMUM AMOUNT OF CREDIT GRANTED TO MILITARY APPLICANTS

MILITARY TRADE CODE	MILITARY TRADE TITLE	MAXIMUM AMOUNT OF CREDIT GRANTED TO MILITARY APPLICANTS											
		PROVINCE AND/OR TERRITORY											
		ALTA.	B.C.	MAN.	N.B.	NFLD.	N.S.	N.W.	ONT.	PEI.	QUE.	SASK.	YUK.
311	MARINE ENGINEERING TECHNICIAN				4			4	NO RESPONSE		NO RESPONSE		
321	HULL TECHNICIAN				4			4					
331	ELECTRICAL TECHNICIAN	4			4	N		4		N			
411	VEHICLE TECHNICIAN	4		4	4	4		4		4		4	
431	ELECTRO-MECHANICAL TECHNICIAN												
511	AERO ENGINE TECHNICIAN												
512	AIRFRAME TECHNICIAN												
513	AVIATION TECHNICIAN												
521	INTEGRAL SYSTEMS TECHNICIAN												

TABLE 4 (continued)

MAXIMUM AMOUNT OF CREDIT GRANTED TO MILITARY APPLICANTS
TOWARD JOURNEYMAN CERTIFICATION BY PARTICIPANTS

MILITARY TRADE CODE	MILITARY TRADE TITLE	MAXIMUM AMOUNT OF CREDIT GRANTED TO MILITARY APPLICANTS											
		PROVINCE AND/OR TERRITORY											
		ALTA.	B.C.	MAN.	N.B.	NFLD.	N.S.	N.W.	ONT.	PEI.	QUE.	SASK.	YUK.
522	COMMUNICATIONS SYSTEMS TECHNICIAN							4				4	
523	RADAR SYSTEMS TECHNICIAN							4				4	
525	AVIONICS TECHNICIAN								NO RESPONSE		NO RESPONSE		
531	SAFETY SYSTEMS TECHNICIAN												
551	INSTRUMENT ELECTRICAL TECHNICIAN	4[1]						4					
561	METALS TECHNICIAN				4			4					
562	MACHINIST	4	4	4	4	4	4	4		4		4	N[2]
563	REFINISHER TECHNICIAN												

[1] - 4 years credit granted toward Journeyman certification
[2] - no response

TABLE 4 (continued)

MAXIMUM AMOUNT OF CREDIT GRANTED TO MILITARY APPLICANTS

MILITARY TRADE CODE	MILITARY TRADE TITLE	MAXIMUM AMOUNT OF CREDIT GRANTED TO MILITARY APPLICANTS											
		PROVINCE AND/OR TERRITORY											
		ALTA.	B.C.	MAN.	N.B.	NFID.	N.S.	N.W.	ONT.	PEI.	QUE.	SASK.	YUK.
611	CONSTRUCTION ENGINEERING TECHNICIAN									N			
612	STRUCTURES TECHNICIAN	4			4			4				4	
613	PLUMBER	4					5						
	GAS FITTER	3	4	5	4	4	—	4	NO RESPONSE	4	NO RESPONSE	5	N
614	ELECTRICIAN		4		4	4	4	4		4		4	4
615	CONSTRUCTION AND MAINTENANCE TECHNICIAN				4								
621	REFRIGERATION AND MECHANICAL TECHNICIAN	4	4	4	4	4	4	4		N		4	
622	ELECTRICAL GENERATING SYSTEMS TECHNICIAN												
623	STATIONARY ENGINEER				4			4		N			
624	WATER SANITATION AND POL TECHNICIAN												

TABLE 4 (continued)

MAXIMUM AMOUNT OF CREDIT GRANTED TO MILITARY APPLICANTS TOWARD JOURNEYMAN CERTIFICATION BY PARTICIPANTS

MILITARY TRADE CODE	MILITARY TRADE TITLE	MAXIMUM AMOUNT OF CREDIT GRANTED TO MILITARY APPLICANTS											
		PROVINCE AND/OR TERRITORY											
		ALTA.	B.C.	MAN.	N.B.	NFLD.	N.S.	N.W.	ONT.	PEI.	QUE.	SASK.	YUK.
625	MECHANICAL SYSTEMS TECHNICIAN				4[2]								
651	FIRE FIGHTER												
711	MEDICAL ASSISTANT								NO RESPONSE		NO RESPONSE		
714	LABORATORY TECHNICIAN												
715	X-RAY TECHNICIAN												
716	HYGIENE TECHNICIAN												
861	COOK	3[1]	3			3	3	3		4		4	
892	DRAUGHTSMAN									N[3]			
	TOTAL RECOGNIZABLE MILITARY TRADES	9	6	4	13	8	6	18		11		13	3

1 - 3 years credit granted toward Journeyman certification
2 - 4 years credit granted toward Journeyman certification
3 - no response

Certification," show two kinds of data. The first of these data is the maximum credit in years toward certification that each province and territory will grant a military applicant for trade experience acquired in the military. The second of these data is the number of military trades that are recognized as apprenticeable trades by each apprenticeship branch that participated in the study.

The maximum number of years of credit toward provincial journeyman certification that is granted by any of the civilian agencies involved in this study is 5 years (Saskatchewan, Military Trade Classification 613 Plumber Gas Fitter). Since this study is an Alberta study, in interpreting data from Tables 4 to 7 inclusive, Alberta will be used as an example.

To illustrate, the Province of Alberta grants a maximum of 4 years of credit toward Provincial Journeyman Certification to military personnel with the proper qualifications and documentation.

Of the 43 military trade classifications listed in Table 4 The Apprenticeship Branch in Alberta recognizes 9 as being eligible for civilian certification. These 9 trades are: Radio Technician (221); Electrical Technician (331); Vehicle Technician (411); Instrument Electrical Technician (551); Machinist (562); Structures Technician (612); Plumber Gas Fitter (613); Refrigeration and Mechanical Technician (621); and Cook (861). Seven of these 9 trades can receive a maximum of 4 years of credit toward journeyman certification. The remaining 2 trades receive a maximum of 3 years of credit.

The range of military trades that are recognized is from 18 (Northwest Territories) to 3 (Yukon Territory).

The Alberta Apprenticeship Branch is the only civilian certifying agency that has divided the Plumber Gas Fitter (613) military trade into two separate trades for certification purposes. In Alberta, a military Plumber receives a maximum of 4 years credit, while military trade Gas Fitter receives 3 years of credit toward journeyman certification.

There were only three participants who wrote comments to Question 4.

Northwest Territories:

> "We would use the equivalency chart as a guideline only. The applicant would have to describe his work experience as well, and application would be evaluated on the basis of this and other trade experience with different employer."

Prince Edward Island:

> "Other trades if listed would be evaluated as to their relationship to our existing designated trades."

Yukon Territory:

> "Yukon has 2 trades, Industrial and Construction. Service Trade Electrician (614) requires proof of 4 years experience as an Electician working in either trade."

Data in Table 4 could be considered as being incomplete, because no data are shown for either Ontario or Quebec. Personnel who completed the research instruments from these provinces did not complete Question 4. In its return, Ontario did include a Trades Equivalency Chart that it uses to equate military pay levels with hours of credit toward apprenticeship for each pay level. The next page shows a sample table taken from the Ontario

SAMPLE TABLE TAKEN FROM ONTARIO TRADES EQUIVALENCY CHART

D.N.D. CLASSIFICATIONS			CIVILIAN OCCUPATIONS JOURNEYMAN EQUIVALENT	C OF Q EXAM	LESS THAN JOURNEYMAN EQUIVALENCIES OR APPRENTICESHIP CREDITS IN HOURS				
MILITARY TRADE CODE	MILITARY TRADE TITLE	PAY LEVEL	CIVILIAN TRADE TITLE		0-900 HRS PAY LEVEL I	900-1800 HRS PAY LEVEL II	1800-4500 HRS PAY LEVEL III	4500-7200 HRS PAY LEVEL IV	7200+ HRS PAY LEVEL V
041	FIELD ENGINEER	5	CONSTRUCTION MILLWRIGHT	YES 8000	500	1000 (B)	1500 (B) (I)	2000 (ALL)	300 (ALL)
052	LINEMAN	5	ELECTRICAL COMMUNICATIONS	NO 8000	1000	2000	MIN	MIN	MIN
411	VEHICLE TECHNICIAN	5	MOTOR VEHICLE MECHANIC	YES 9000	1000 (B)	2000 (B) (I)	4500 (ALL)	MIN (ALL)	C.Q. (ALL)
613	PLUMBER GAS FITTER	6	PLUMBER	YES 9000	1000 (B)	2000 (B) (I)	4500 (ALL)	MIN (ALL)	C.Q. (ALL)
861	COOK	5	COOK	YES 6000	1000 (B)	MIN (B)	MIN (B)	MIN (ALL)	C.Q. (ALL)

Trades Equivalency Chart. The complete Equivalency Chart shows that this province recognizes 32 military trades that can receive hours of credit toward an apprenticeship. Data in the sample table show the comprehensiveness of the Ontario Trade Equivalency Chart which shows the civilian trade title for each military trade that is recognized; the number of hours that are accredited for each pay level reached; the types of examinations that a military applicant could be excused from; and the number of years that must be fulfilled on the apprenticeship contract.

The Ontario Trade Equivalency Chart can be interpreted in this way:

MILITARY TRADE CODE 041 - designated military trade code number for the military trade title of Field Engineer

PAY LEVEL 5 - is the pay level that a Field Engineer must attain before he can write a certification examination in Ontario

CIVILIAN TRADE TITLE - for the military trade code 041 - Field Engineer, a comparable civilian occupation is Construction Millwright

C OF Q EXAM - this means that a military applicant must have reached Pay Level 5 and have 8000 hours as a Field Engineer before he may write the Certificate of Qualification Examination for-YES. NO-means no examination is required, but the hours in the trade are still required.

0-900 HRS PAY LEVEL I - this means that the applicant at Pay Level I must have a minimum of 500 hours as a Field Engineer in order to receive recognition toward apprenticeship credit.

(B) - applicant is excused from BASIC in-school programs

(I) - applicant is excused from INTERMEDIATE in-school programs

(ALL) - applicant must become involved in ALL in-school programs

(MIN) - this means that a minimum of two years contract must be served

Question 5 was written to determine the time required by military personnel in order for them to write the Provincial Journeyman and/or Interprovincial Journeyman examinations for certification. On the research instrument, this question had the following wording:

> "What is the time requirement in years that a military trade person must reach before the Apprenticeship Branch in your province or territory grants permission to write the Provincial Journeyman and/or the Interprovincial Journeyman examinations?"

An apprenticeable trade is a trade that requires a contract between the employer and the apprentice which guarantees that the employer will provide training in skill development to the apprentice which will lead to examination for journeyman certification.

A certifiable trade is a trade for which an Interprovincial Standards Examination has been established. An apprentice who receives a grade of more than 69 per cent on this examination is awarded the Interprovincial Red Seal which is affixed to the journeyman certificate

Data in Table 5 show the time that is required by military personnel in a military occupation before they can write either the Provincial Journeyman Examination or the Interprovincial Journeyman Examination in participating jurisdictions. Data in this table are written as fractions with the numerator of the fraction indicating the number of years of military trade experience needed to write the Provincial Journeyman Examination. The denominator of the fraction indicates the number of years of military trade experience that is required before a military applicant can write the Interprovincial Journeyman Examination.

TABLE 5

TIME REQUIRED IN YEARS BY MILITARY PERSONNEL TO WRITE PROVINCIAL AND/OR INTERPROVINCIAL JOURNEYMAN EXAMINATION(S)

MILITARY TRADE CODE	MILITARY TRADE TITLE	TIME REQUIRED IN YEARS											
		PROVINCE AND/OR TERRITORY											
		ALTA.	B.C.	MAN.	N.B.	NFLD.	N.S.	N.W.	ONT.	PEI.	QUE.	SASK.	YUK.
041	FIELD ENGINEER												
052	LINEMAN		5/3			4	4/4			N^3		4	
131	PHOTOGRAPHIC TECHNICIAN												
221	RADIO TECHNICIAN	$4^1/4^2$						NO RESPONSE	NO RESPONSE		NO RESPONSE	4/4	
223	TELETYPE AND CYPHER TECHNICIAN												
224	COMMUNICATIONS TECHNICIAN											4/4	
231	RADAR TECHNICIAN											4/4	
251	RADIOMAN (SEA)												
252	COMMUNICATION TECHNICIAN (SEA)												

1 - Years of military trade experience to write Provincial Journeyman examination
2 - Years of military trade experience to write Interprovincial Journeyman examination
3 - No response

TABLE 5 (continued)

TIME REQUIRED IN YEARS BY MILITARY PERSONNEL

MILITARY TRADE CODE	MILITARY TRADE TITLE	TIME REQUIRED IN YEARS											
		PROVINCE AND/OR TERRITORY											
		ALTA.	B.C.	MAN.	N.B.	NFLD.	N.S.	N.W.	ONT.	PEI.	QUE.	SASK.	YUK.
311	MARINE ENGINEERING TECHNICIAN				6								
321	HULL TECHNICIAN				7								
331	ELECTRICAL TECHNICIAN	$\frac{4}{4}$			7	N				5			
411	VEHICLE TECHNICIAN	$\frac{4}{4}$		$\frac{5}{5}$	$\frac{7}{7}$	$\frac{4}{4}$				5		$\frac{5}{5}$	
431	ELECTRO-MECHANICAL TECHNICIAN							NO RESPONSE	NO RESPONSE		NO RESPONSE		
511	AERO ENGINE TECHNICIAN												
512	AIRFRAME TECHNICIAN												
513	AVIATION TECHNICIAN												
521	INTEGRAL SYSTEMS TECHNICIAN												
522	COMMUNICATIONS SYSTEMS TECHNICIAN											$\frac{4}{4}$	

TABLE 5 (continued)

TIME REQUIRED IN YEARS BY MILITARY PERSONNEL TO WRITE PROVINCIAL AND/OR INTERPROVINCIAL JOURNEYMAN EXAMINATION(S)

MILITARY TRADE CODE	MILITARY TRADE TITLE	TIME REQUIRED IN YEARS											
		PROVINCE AND/OR TERRITORY											
		ALTA.	B.C.	MAN.	N.B.	NFLD.	N.S.	N.W.	ONT.	PEI.	QUE.	SASK.	YUK.
523	RADAR SYSTEMS TECHNICIAN											$\frac{4}{4}$	
525	AVIONICS TECHNICIAN												
531	SAFETY SYSTEMS TECHNICIAN												
551	INSTRUMENT ELECTRICAL TECHNICIAN	$\frac{4}{\ }$											
561	METALS TECHNICIAN				N[3]								
562	MACHINIST	$\frac{4^{1}}{4^{2}}$	$\frac{5}{5}$	$\frac{5}{5}$	7	$\frac{4}{4}$	$\frac{4}{4}$	NO RESPONSE	NO RESPONSE	5	NO RESPONSE	$\frac{4}{4}$	$\frac{4}{4}$
563	REFINISHER TECHNICIAN												
611	CONSTRUCTION ENGINEERING TECH									5			

1 - Years of military trade experience to write Provincial Journeyman examination
2 - Years of military trade experience to write Interprovincial Journeyman examination
3 - No response

TABLE 5 (continued)

TIME REQUIRED IN YEARS BY MILITARY PERSONNEL

MILITARY TRADE CODE	MILITARY TRADE TITLE	TIME REQUIRED IN YEARS											
		PROVINCE AND/OR TERRITORY											
		ALTA.	B.C.	MAN.	N.B.	NFLD.	N.S.	N.W.	ONT.	PEI.	QUE.	SASK.	YUK.
612	STRUCTURES TECHNICIAN	$\frac{4}{4}$			7							$\frac{4}{4}$	
613	PLUMBER	$\frac{4}{4}$					$\frac{5}{5}$						
	GAS FITTER	$\frac{}{\underline{3}}$	$\frac{6}{5}$	$\frac{6}{6}$	$\frac{7}{7}$	$\frac{5}{5}$	—			5		$\frac{5}{5}$	$\frac{4}{4}$
614	ELECTRICIAN		$\frac{5}{5}$		6	$\frac{4}{4}$	$\frac{4}{4}$			5		$\frac{4}{4}$	$\frac{4}{4}$
615	CONSTRUCTION AND MAINTENANCE TECH				10								
621	REFRIGERATION AND MECHANICAL TECH	$\frac{4}{4}$	$\frac{6}{5}$	N	$\frac{7}{}$	N	$\frac{4}{4}$			5		$\frac{4}{4}$	
622	ELECTRICAL GENERATING SYSTEMS TECHNICIAN												
623	STATIONARY ENGINEER				7					5			
624	WATER SANITATION AND POL TECHNICIAN												

TABLE 5 (continued)

TIME REQUIRED IN YEARS BY MILITARY PERSONNEL TO WRITE PROVINCIAL AND/OR INTERPROVINCIAL JOURNEYMAN EXAMINATION(S)

MILITARY TRADE CODE	MILITARY TRADE TITLE	TIME REQUIRED IN YEARS											
		PROVINCE AND/OR TERRITORY											
		ALTA.	B.C.	MAN.	N.B.	NFLD.	N.S.	N.W.	ONT.	PEI.	QUE.	SASK.	YUK.
625	MECHANICAL SYSTEMS TECHNICIAN				11								
651	FIRE FIGHTER												
711	MEDICAL ASSISTANT							NO RESPONSE	NO RESPONSE		NO RESPONSE		
714	LABORATORY TECHNICIAN												
715	X-RAY TECHNICIAN												
716	HYGIENE TECHNICIAN												
861	COOK	$\frac{3^{1}}{3^{2}}$	$\frac{3}{3}$			3	$\frac{3}{3}$			5		$\frac{4}{4}$	
892	DRAUGHTSMAN									5			
	TOTAL RECOGNIZABLE MILITARY TRADES	9	6	4	13	8	6			11		13	3

1 - Years of military trade experience to write Provincial Journeyman examination
2 - Years of military trade experience to write Interprovincial Journeyman examination

Again using the example of the military trade Plumber Gas Fitter in Alberta, this military trade has been divided into two separate trade classifications - Plumber and Gas Fitter. Data in Table 5 show that an applicant from the military must have four years of experience as a Plumber before writing either the Provincial Journeyman Examination or the Interprovincial Journeyman Examination. A military Gas Fitter needs only three years of military trade experience before being able to write only the Provincial Journeyman Examination.

Below are verbatim quotes that participants had written in the comment section of Question 5.

British Columbia:

> "For the Red Seal, apprentices write the examination on completion of their last technical assignment. This happens in the last year of the indenture. Therefore, the Red Seal usually comes before T.Q. [Trade Qualification]. The requirements for T.Q. are usually one year longer than the formal Apprenticeship program."

Manitoba:

> "For the majority of the trades in Manitoba, an apprenticeship year is 1800 hours. The same number of years of experience is required for examination eligibility regardless of the classification, Provincial or Interprovincial examination."

> "Vehicle Technician (411), Machinist (562), and Plumber Gas Fitter (613) have Interprovincial examinations. Candidates who achieve 65 to 69 per cent are eligible for a Provincial certificate only. Those who achieve 70 per cent or over are eligible for the Interprovincial Seal on their certificate."

Nova Scotia:

> "Varies with the Trade Regulations for each trade."

Prince Edward Island:

> "The indicated trades would be first evaluated in regards to their common skills and knowledge to our designated trades before acceptance. Example: Electrical Technician (331) relating to Electrician (614). In this province, a trades-person must be a qualified Provincial Journeyman for at least 1 year before being eligible for an Interprovincial examination."

Saskatchewan:

> "We allow the applicants to write for Provincial Journeyman Status if they have less than 6 months to serve at the trade to qualify as a Journeyman, [years of experience for Journeyman Status is indicated in Table 5]. We also allow apprentices who have finished the formal training to write the I/P [Interprovincial] examination for Provincial Journeyman certificates and the I/P Seal simultaneously. Canadian Armed Forces personnel will receive similar treatment. Other tradesmen who hold a Journeyman certificate may write the I/P Seal examination."

Yukon Territory:

> "Four years is an equivalent of 4 X 1800 hours = 7200 hours. Electrician (614) requires 7200 hours."

Question 6 asked participants to identify from a list of 43 military trades those trades that they recognized as being eligible for Provincial Journeyman and/or Interprovincial Red Seal certification. On the research instrument, Question 6 was worded thusly:

> "From the following list of military trades, please identify those trades that are under Provincial Journeyman and/or Interprovincial Red Seal certification in your province (territory)."

Data in Table 6 indicates that from the 43 military trades listed, Alberta recognized 9 for Provincial and/or Interprovincial Journeyman certification. Of these 9 trades, 7 could receive both Provincial and Interprovincial certification. The remaining two military trades, Instrument Electrical Technician and Gas

TABLE 6

MILITARY TRADES IDENTIFIED BY PARTICIPANTS FOR PROVINCIAL AND/OR INTERPROVINCIAL CERTIFICATION

MILITARY TRADE CODE	MILITARY TRADE TITLE	TRADES IDENTIFIED FOR CERTIFICATION											
		PROVINCE AND/OR TERRITORY											
		ALTA.	B.C.	MAN.	N.B.	NFLD.	N.S.	N.W.	ONT.	PEI.	QUE.	SASK.	YUK.
041	FIELD ENGINEER								P		P I/P		
052	LINEMAN		N[3]			P	P	P	P	N	P I/P	N	
131	PHOTOGRAPHIC TECHNICIAN								P				
221	RADIO TECHNICIAN	P[1] I/P[2]							P			P I/P	
223	TELETYPE AND CYPHER TECHNICIAN								P				
224	COMMUNICATIONS TECHNICIAN							P	P			P I/P	
231	RADAR TECHNICIAN							P	P			P I/P	
251	RADIOMAN (SEA)								P				

1 - Provincial Certification
2 - Interprovincial Certification
3 - No response

TABLE 6 (continued)

MILITARY TRADES IDENTIFIED BY PARTICIPANTS

MILITARY TRADE CODE	MILITARY TRADE CODE	TRADES IDENTIFIED FOR CERTIFICATION											
		PROVINCE AND/OR TERRITORY											
		ALTA.	B.C.	MAN.	N.B.	NFLD.	N.S.	N.W.	ONT.	PEI.	QUE.	SASK.	YUK.
252	COMMUNICATIONS TECHNICIAN (SEA)								P				
311	MARINE ENGINEERING TECHNICIAN				P			P	P		$\frac{P}{I/P}$		
321	HULL TECHNICIAN				P			P	P		$\frac{P}{I/P}$		
331	ELECTRICAL TECHNICIAN	$\frac{P}{I/P}$			P	$\frac{P}{I/P}$		P	P	N	$\frac{P}{I/P}$		
411	VEHICLE TECHNICIAN	$\frac{P}{I/P}$		$\frac{P}{I/P}$	$\frac{P}{I/P}$	$\frac{P}{I/P}$		P	P	$\frac{P}{I/P}$	$\frac{P}{I/P}$	$\frac{P}{I/P}$	
431	ELECTRO-MECHANICAL TECHNICIAN										$\frac{P}{I/P}$		
511	AERO ENGINE TECHNICIAN								P				

TABLE 6 (continued)

MILITARY TRADES IDENTIFIED BY PARTICIPANTS FOR PROVINCIAL AND/OR INTERPROVINCIAL CERTIFICATION

MILITARY TRADE CODE	MILITARY TRADE TITLE	TRADES IDENTIFIED FOR CERTIFICATION											
		PROVINCE AND/OR TERRITORY											
		ALTA.	B.C.	MAN.	N.B.	NFLD.	N.S.	N.W.	ONT.	PEI.	QUE.	SASK.	YUK.
512	AIRFRAME TECHNICIAN								P				
513	AVIATION TECHNICIAN								P				
521	INTEGRAL SYSTEMS TECHNICIAN												
522	COMMUNICATIONS SYSTEMS TECHNICIAN							P	P			P[1] I/P[2]	
523	RADAR SYSTEMS TECHNICIAN							P	P			P I/P	
525	AVIONICS TECHNICIAN								P				
531	SAFETY SYSTEMS TECHNICIAN												

1 - Provincial Certification
2 - Interprovincial Certification

TABLE 6 (continued)

MILITARY TRADES IDENTIFIED BY PARTICIPANTS

MILITARY TRADE CODE	MILITARY TRADE TITLE	TRADES IDENTIFIED FOR CERTIFICATION											
		PROVINCE AND/OR TERRITORY											
		ALTA.	B.C.	MAN.	N.B.	NFLD.	N.S.	N.W.	ONT.	PEI.	QUE.	SASK.	YUK.
551	INSTRUMENT ELECTRICAL TECH	P						P	P		$\frac{P}{I/P}$		
561	METALS TECHNICIAN				P			P	P		$\frac{P}{I/P}$		
562	MACHINIST	$\frac{P}{I/P}$	$\frac{P}{I/P}$	$\frac{P}{I/P}$	P	$\frac{P}{I/P}$	$\frac{P}{I/P}$	P	P	$\frac{P}{I/P}$	$\frac{P}{I/P}$	$\frac{P}{I/P}$	$\frac{P}{I/P}$
563	REFINISHER TECHNICIAN								P				
611	CONSTRUCTION ENGINEERING TECHNICIAN									$\frac{P}{I/P}$	$\frac{P}{I/P}$		
612	STRUCTURES TECHNICIAN	$\frac{P}{I/P}$			P			P	P		$\frac{P}{I/P}$	$\frac{P}{I/P}$	
613	PLUMBER	$\frac{P}{I/P}$	$\frac{P}{I/P}$				$\frac{P}{I/P}$						
	GAS FITTER	P		$\frac{P}{I/P}$	$\frac{P}{I/P}$	$\frac{P}{I/P}$		P	P	$\frac{P}{I/P}$	$\frac{P}{I/P}$	$\frac{P}{I/P}$	$\frac{P}{I/P}$

TABLE 6 (continued)

MILITARY TRADES IDENTIFIED BY PARTICIPANTS FOR PROVINCIAL AND/OR INTERPROVINCIAL CERTIFICATION

MILITARY TRADE CODE	MILITARY TRADE TITLE	TRADES IDENTIFIED FOR CERTIFICATION											
		PROVINCE AND/OR TERRITORY											
		ALTA.	B.C.	MAN.	N.B.	NFLD.	N.S.	N.W.	ONT.	PEI.	QUE.	SASK.	YUK.
614	ELECTRICIAN		P I/P		P	P I/P	P I/P	P	P	P I/P	P I/P	P I/P	P I/P
615	CONSTRUCTION AND MAINTENANCE TECH				P								
621	REFRIGERATION AND MECHANICAL TECH	P[1] I/P[2]	P I/P	P I/P	P	P I/P	P I/P	P	P	P I/P	P I/P	P I/P	
622	ELECTRICAL GENERATING SYSTEMS TECHNICIAN								P		P I/P		
623	STATIONARY ENGINEER				P			P		P	P I/P		
624	WATER SANITATION AND POLLUTION TECHNICIAN								P				
625	MECHANICAL SYSTEMS TECHNICIAN				P				P				

1 - Provincial Certification
2 - Interprovincial Certification

TABLE 6 (continued)

MILITARY TRADES IDENTIFIED BY PARTICIPANTS

MILITARY TRADE TITLE	MILITARY TRADE TITLE	TRADES IDENTIFIED FOR CERTIFICATION											
		PROVINCE AND/OR TERRITORY											
		ALTA.	B.C.	MAN.	N.B.	NFLD.	N.S.	N.W.	ONT.	PEI.	QUE.	SASK.	YUK.
651	FIRE FIGHTER												
711	MEDICAL ASSISTANT												
714	LABORATORY TECH												
715	X-RAY TECHNICIAN												
716	HYGIENE TECHNICIAN												
861	COOK	$\frac{P}{I/P}$	$\frac{P}{I/P}$			P	$\frac{P}{I/P}$	P	P	$\frac{P}{I/P}$		$\frac{P}{I/P}$	
892	DRAUGHTSMAN								P	N			
	TOTAL RECOGNIZABLE MILITARY TRADES	9	6	4	13	8	6	18	32	11	17	13	3

Fitter under provincial regulation are recognized for Provincial certification only.

Of the 9 military trades recognized as apprenticeable trades by Alberta, 8 carry dual certification. That is, after a military applicant completes the necessary apprenticeable requirements needed to write the certifying examinations, both the Provincial and Interprovincial qualifying examinations can be written.

Participants from Manitoba, the Northwest Territories and Quebec wrote comments to Question 6. These are the comments that they wrote:

Manitoba:

> "Vehicle Technician with appropriate experience may also qualify for Heavy Duty Equipment Mechanic Examination."

Northwest Territories:

> "Please refer to chart [Ontario] checked previously with our terminology. All IPS [Interprovincial Status] trades except bricklayer are designated [trades] in the NWT [Northwest Territories]."

Quebec:

> "Both trades, Mobile Support Equipment Operator, and Telecom Rigger (lineman) are recognized both for Provincial Journeyman and Interprovincial Red Seal certification."

To determine which jurisdiction had compulsory or non-compulsory certification for its tradesmen, Question 7 was designed. This question asked participants to select from a list of 43 military trades those that had either compulsory or non-compulsory certification requirement. Question 7 on the research

instrument was stated:

> "Which of the following military trades in your province (territory) have compulsory certification or non-compulsory certification?"

Information collected with this question make up the data in Table 7. Data in this table like data in Table 4 may appear to be incomplete, because participants from Ontario and Quebec, and both of the Territories did not provide the information requested by this question. It was evident from the written comments made by the participant from the Northwest Territories to Question 7 that this particular Apprenticeship Branch does not have any compulsory certification requirements that its tradesmen must meet. Participants from Ontario, Quebec and the Yukon Territory did not provide any comments to this question; therefore, it is unknown whether or not these jurisdictions have any compulsory certification requirements.

The number of military trades with either compulsory or non-compulsory certification requirement is given as a fraction, for example, Alberta is 5/4. The numerator and the denominator of the fraction when added together determine the total number of military trades recognized by participating provinces that reported this information. The numerator of the fraction indicates the total number of military trades that require compulsory certification while the denominator shows the total number of military occupations that have a non-compulsory certification requirement.

Of the 9 military trades recognized by the Apprenticeship Branch of Alberta Advanced Education and Manpower, 4 are

TABLE 7

MILITARY OCCUPATIONS IDENTIFIED BY PARTICIPANTS THAT HAVE COMPULSORY OR NON COMPULSORY CERTIFICATION REQUIREMENT

MILITARY TRADE CODE	MILITARY TRADE TITLE	KIND OF CERTIFICATION REQUIREMENT											
		PROVINCE AND/OR TERRITORY											
		ALTA.	B.C.	MAN.	N.B.	NFLD.	N.S.	N.W.	ONT.	PEI.	QUE.	SASK.	YUK.
041	FIELD ENGINEER												
052	LINEMAN		N[3]			NC[2]	NC			NC		NC	
131	PHOTOGRAPHIC TECHNICIAN												
221	RADIO TECHNICIAN	C[1]										C	
223	TELETYPE AND CYPHER TECHNICIAN							NO RESPONSE	NO RESPONSE		NO RESPONSE		NO RESPONSE
224	COMMUNICATIONS TECH											C	
231	RADAR TECHNICIAN											C	
251	RADIOMAN (SEA)												
252	COMMUNICATION TECHNICIAN (SEA)												

1 - Compulsory Certification
2 - Non-compulsory Certification
3 - No response

TABLE 7 (continued)

MILITARY OCCUPATIONS IDENTIFIED BY PARTICIPANTS

MILITARY TRADE CODE	MILITARY TRADE TITLE	KIND OF CERTIFICATION REQUIREMENT											
		PROVINCE AND/OR TERRITORY											
		ALTA.	B.C.	MAN.	N.B.	NFLD.	N.S.	N.W.	ONT.	PEI.	QUE.	SASK.	YUK.
311	MARINE ENGINEERING TECHNICIAN				C			NO RESPONSE	NO RESPONSE		NO RESPONSE		NO RESPONSE
321	HULL TECHNICIAN				C								
331	ELECTRICAL TECHNICIAN	C			C	NC				C			
411	VEHICLE TECHNICIAN	C		NC	C	C				C		C	
431	ELECTRO-MECHANICAL TECHNICIAN												
511	AERO ENGINE TECHNICIAN												
512	AIRFRAME TECHNICIAN												
513	AVIATION TECHNICIAN												
521	INTEGRAL SYSTEMS TECHNICIAN												

TABLE 7 (continued)

MILITARY OCCUPATIONS IDENTIFIED BY PARTICIPANTS THAT HAVE COMPULSORY OR NON COMPULSORY CERTIFICATION REQUIREMENT

MILITARY TRADE CODE	MILITARY TRADE TITLE	KIND OF CERTIFICATION REQUIREMENT											
		PROVINCE AND/OR TERRITORY											
		ALTA.	B.C.	MAN.	N.B.	NFLD.	N.S.	N.W.	ONT.	PEI.	QUE.	SASK.	YUK.
522	COMMUNICATIONS SYSTEMS TECHNICIAN							NO RESPONSE	NO RESPONSE		NO RESPONSE	C	NO RESPONSE
523	RADAR SYSTEMS TECHNICIAN											C	
525	AVIONICS TECHNICIAN												
531	SAFETY SYSTEMS TECHNICIAN												
551	INSTRUMENT ELECTRICAL TECHNICIAN	NC[2]											
561	METALS TECHNICIAN				C[1]								
562	MACHINIST	NC	N[3]	NC	C	NC	NC			NC		NC	
563	REFINISHER TECHNICIAN												

1 - Compulsory Certification
2 - Non-compulsory Certification
3 - No response

TABLE 7 (continued)

MILITARY OCCUPATIONS IDENTIFIED BY PARTICIPANTS

MILITARY TRADE CODE	MILITARY TRADE TITLE	KIND OF CERTIFICATION REQUIREMENT											
		PROVINCE AND/OR TERRITORY											
		ALTA.	B.C.	MAN.	N.B.	NFLD.	N.S.	N.W.	ONT.	PEI.	QUE.	SASK.	YUK.
611	CONSTRUCTION ENGINEERING TECH							NO RESPONSE	NO RESPONSE	NC	NO RESPONSE		NO RESPONSE
612	STRUCTURES TECHNICIAN	NC			C							C	
613	PLUMBER GAS FITTER	C	C	N	C	NC	C			C		C	
614	ELECTRICIAN		N		C	NC	C			C		C	
615	CONSTRUCTION AND MAINTENANCE TECH				C								
621	REFRIGERATION AND MECHANICAL TECH	C	C	NC	C	NC	NC			NC		C	
622	ELECTRICAL GENERATING SYSTEMS TECHNICIAN												
623	STATIONARY ENGINEER				C					NC			
624	WATER SANITATION AND POL TECHNICIAN												
625	MECHANICAL SYSTEMS TECHNICIAN				C								

TABLE 7 (continued)

MILITARY OCCUPATIONS IDENTIFIED BY PARTICIPANTS THAT HAVE COMPULSORY OR NON COMPULSORY CERTIFICATION REQUIREMENT

MILITARY TRADE CODE	MILITARY TRADE TITLE	KIND OF CERTIFICATION REQUIREMENT											
		PROVINCE AND/OR TERRITORY											
		ALTA.	B.C.	MAN.	N.B.	NFLD.	N.S.	N.W.	ONT.	PEI.	QUE.	SASK.	YUK.
651	FIRE FIGHTER												
711	MEDICAL ASSISTANT												
714	LABORATORY TECHNICIAN							NO RESPONSE	NO RESPONSE		NO RESPONSE		NO RESPONSE
715	X-RAY TECHNICIAN												
716	HYGIENE TECHNICIAN												
861	COOK	NC[1]	N[2]			NC	NC			NC		NC	
892	DRAUGHTSMAN									NC			
NUMBER OF MILITARY TRADES WITH COMPULSORY OR NON-COMPULSORY REQUIREMENT		5/4	2/0	0/4	13/0	1/7	2/4			4/7		10/3	

1 - Non-compulsory Certification
2 - No response

classified as non-compulsory certificate trades. The remaining 5 trades are categorized as compulsory certificate trades. The Manpower Development Act (1976) defines a non-compulsory certification trade as follows:

> "The minister, on the recommendation of the Board, [Apprenticeship] may from time to time designate by order any trade therein described as a designated trade to which this Division applies whether or not a petition is received or an investigation is made," (p. 13).

The same Act defines a compulsory certification trade as follows:

> "In the interest of public protection or general safety the Lieutenant Governor in Council may from time to time designate by order any trade therein described as a trade to which this Division applies whether or not a petition is received or an investigation is made," (p. 16).

Participants from British Columbia, Manitoba, Nova Scotia, Northwest Territories, and Saskatchewan provided the researcher with comments to Question 7. Below are the comments that were made by these participants.

British Columbia:

> "Plumber Gas Fitter (613) - Plumber trade only, no Gas Fitter trade for certification. Refrigeration and Mechanical Technician (621) - Refrigeration trade only, no Mechanical Technician trade for certification."

Manitoba:

> "Voluntary certification applies to all trades in Manitoba. However, Construction Electricians are required to have a licence, renewable each year."

Nova Scotia:

> "Plumber Gas Fitter (613) trade have only Plumber for certification, but no Gas Fitter section of the trade."

Northwest Territories:

> "There is no compulsory certification in the NWT. [Northwest Territories]."

Saskatchewan:

> "Lineman (052) - applicants required to complete training before they can be qualified as Journeyman."

> "Radio Technician (221), Communication Technician (224), Radar Technician (231), Vehicle Technician (411), Radar Systems Technician (523), Metals Technician (561), Structure Technician (612), and Refrigeration and Mechanical Technician (621) - applicants required to hold a valid Certificate of Status, (not necessary Journeyman if they [applicants] work at the trade) Provincial identified in the province."

> "Plumber Gas Fitter (613) and Electrician (614) - those commencing employment as Electrician, Plumber, and Sheet Metal Trades (work with 10 gauge metal or lighter), after 1 December 76 must become indentured."

Question 8 was written to identify some of the major differences that service personnel have when they apply for qualification as an apprentice with a provincial or territorial apprenticeship branch. To secure this information, Question 8 was worded in the following manner:

> "What are some of the obstacle(s) that your Apprenticeship Branch has encountered with service personnel who were seeking apprenticeship qualification?"

Nine of the 12 participants indicate that service personnel are deficient in providing them with proof of time in a trade, (the number of hours), while practicing a particular trade in the military. Of the 9 participants who answered Question 8, 4 indicated that another of the deficiencies that military applicants had was that they could not produce documentation to show that they had any formal training in a trade that they were applying to be certified in. Next in rank order of deficiencies was that 4 apprenticeship branches reported that military personnel had difficulty passing the highest level of examination set for

TABLE 8

DEFICIENCIES IDENTIFIED BY CIVILIAN CERTIFIERS OF SERVICE PERSONNEL SEEKING APPRENTICESHIP QUALIFICATION

SERVICE PERSONNEL DEFICIENCIES	CIVILIAN CERTIFIERS												
	PROVINCE AND/OR TERRITORY												
	ALTA.	B.C.	MAN.	N.B.	NFLD.	N.S.	N.W.	ONT.	PEI.	QUE.	SASK.	YUK.	TOTAL
DEFICIENT IN PROOF OF TIME IN TRADE	X	X	X	X	X	X	NO RESPONSE	X	NO RESPONSE	X	X	NO RESPONSE	9
LACK OF PROOF IN FORMAL TRAINING	X	X		X							X		4
LACK OF MINIMUM EDUCATION	X				X								2
DIFFICULTY PASSING HIGHEST LEVEL OF EXAMINATION	X				X	X		X					4
DIFFICULTY PASSING LOWEST LEVEL OF EXAMINATION	X							X					2

an apprenticeable trade. Only 2 participants indicated that service personnel had difficulty passing the lowest level of examination and that military personnel who had made application for certification did not possess the minimum amount of education required for a particular trade.

Eight participants wrote comments to Question 8. Below are the verbatim quotes from the instruments of these participants.

British Columbia:

> "Most often, it is a training deficiency and/or work experience in two or more crucial areas within a specific trade; and because of this, a person would be unable to pass a T.Q. [Trade Qualification] exam without formal upgrading in these areas."

Manitoba:

> "Application must be accompanied by documentary proof of required employment, and $10.00 examination and certificate fee."

> "On receipt, the application and documents are reviewed by Examination Authority, and if approved, the applicant is notified to attend for the required examination(s)."

> "On passing the examination(s), the issue of a Certificate Qualification is authorized."

Newfoundland:

> "Lack of knowledge of Codes - Plumbing, Electrical and also Municipal regulations."

Northwest Territories:

> "We have had very few applicants from Military personnel, so [we] cannot comment."

Prince Edward Island:

> "At this time, we have not had any inquiries for entrance into Apprenticeship Training Programs."

Quebec:

> "Employees [Military personnel] discharged at Pay Level 3 or 4, must complete additional training on working sites [field experience], before being requested to sit [to write] provincial exams."

> "Apprenticeship Training in Quebec consisted of period or year; an apprentice earns 2,000 hours per period toward his technical training on-the-job. At the beginning of an apprentice's training, he receives 1,000 hours, and another 1,000 hours at the completion of his training. This can be obtained only when he completed 5 years of high school with an average mark of 60 per cent or better on his subjects."

> "To be eligible for apprenticing, an apprentice must first be hired by an employer, then he can apply for the Apprenticeship program under the Canada Labour and Manpower Program. Following this, the Quebec Apprenticeship Board will issue an apprenticeship book to the applicant. The purpose of this book is to register the practical time spent on-the-job to be classified as work experience."

> "The employer if agreed, will hire an apprentice regardless of his achieved education. However, 5 years of high school is required if an applicant has achieved less than 60 per cent average on his high school subjects. If this is true, the applicant will receive only 500 hours toward his technical training on-the-job. If the applicant completed 4 years of technical schooling at a technical institute, he will receive a maximum of 3,000 hours toward his technical training."

Saskatchewan:

> "Lack of documentation regarding actual work performed or training taken."

Yukon Territory:

> "No application received since 1968."

Closely related to apprenticeship training is journeyman certification which is normally given after an apprentice meets all of the requirements needed to write a certification examination. From discussions during the on-site interviews, it was found that military personnel who seek journeyman

certification are often deficient in certain background areas. To identify if these deficiencies were common across the country, Question 9 was written. This question asked:

> "What are some of the obstacle(s) that your Apprenticeship Branch has encountered with the service personnel who were seeking trade certification?"

Data collected with this question make up the content of Table 9. A rank order for the deficiencies that skilled military trades personnel had when applying to an apprenticeship branch for trade certification show that these individuals were deficient in two areas: lack of proof of time in a trade; and military tradesmen could not document the number of hours in military trades, or their military trades did not have comparable civilian trades. Five of the 12 participants indicated that tradesmen from the military had difficulty in passing the examinations that would otherwise grant their journeymen certificates. At the extreme end of the rank order, 3 participants stated that service personnel were deficient in the type of formal training that they had received for a particular trade.

Data in this table also show that none of the service personnel lacked the minimum education requirement for the designated trade when they sought trade certification. All provinces with the exception of Saskatchewan reported that military trade classified by military trainers was not comparable to an equivalent civilian trade.

The two territories, Northwest and Yukon did not respond to Question 9.

Six participants included comments to Question 9. The

TABLE 9

DEFICIENCIES OF SERVICE PERSONNEL IN SEEKING TRADE CERTIFICATION

DEFICIENCY OF SERVICE PERSONNEL	REVIEWING TRADE CERTIFICATION												
	PROVINCE AND/OR TERRITORY												
	ALTA.	B.C.	MAN.	N.B.	NFLD.	N.S.	N.W.	ONT.	PEI.	QUE.	SASK.	YUK.	TOTAL
PROOF OF TIME IN TRADE	X		X	X	X	X	NO RESPONSE	X	X	X	X	NO RESPONSE	9
LACK OF PROOF IN FORMAL TRAINING	X			X							X		3
LACK OF MINIMUM EDUCATION													0
PASSING JOURNEYMAN EXAMS	X				X	X		X	X				5
MILITARY TRADE INCOMPARABLE WITH CIVILIAN TRADE	X	X	X	X	X	X		X	X	X			9

comments that appear below are taken directly from this section of the research instrument.

Alberta:

> "Deficient in the amount of time actively employed in the designated trade is the most important requirement. Educational level is not really a problem."

British Columbia:

> "Military trades people may encompass two or more trade areas in one trade. For example, a Carpenter may also lay brick. A civilian trades person who does carpentry work is a Carpenter - One who does brick or masonry work is a Bricklayer. Two separate trades. The military person has difficulty sorting out the time spent in any specific area if he or she has been working in both areas. Should they be able to prove work experience according to the regulations for carpentry, then they [Service personnel] would qualify to write the Carpentry T.Q. [Trade Qualification], likewise for Bricklayer. In effect, they [Military personnel] may qualify to write both trade papers if they could show evidence to satisfy both requirements. This is a difficult task if a person has only been working four or five years and the requirements call for proof of, say 10,000 hours to qualify."

Manitoba:

> "Requirements for this question are the same as service personnel who were seeking apprenticeship qualification in question 8."

Newfoundland:

> "Lack of knowledge of Codes and Provincial and Municipal regulations."

Prince Edward Island:

> "The main problem is to relate the various trade categories of the service personnel to a civilian designated trade, and when given the service person the benefit of the doubt, it reflects in the results of the examinations in the areas of the practical aptitudes that we have to offer."

Saskatchewan:

> "Lack of documentation regarding actual work performed or training received."

Question 10 was written to identify the various components that each apprenticeship branch uses when certifying a skilled military trades-person for a civilian trade certification. Of the 12 participants, 8 completed Question 10 by writing in additional information about their apprenticeship and certification programs for service personnel. Below are their verbatim comments:

Alberta:

> "Apprenticeship is on-the-job skill development supplemented by short periods of extensive classroom and shop instruction. Outcome of apprenticeship is a Journeyman - a person with wide range of marketable skills and acceptable theoretical knowledge."

> "A prospective apprentice must have employment with an employer who is a Journeyman or employs a Journeyman. The employer and the apprentice must be prepared to enter into an apprenticeship agreement."

Manitoba:

> "In granting credits to an applicant for apprenticeship, the director shall consider the nature and quality of any course of study or training previously completed by the applicant; and any experience in the trade gained by the applicant prior to his application."

New Brunswick:

> "In attempting to determine who, in the Department of National Defence, could possibly receive, or be granted civilian accreditation for military training in the Motor Vehicle Repair Trade (Mechanical), the Trades Examination Officer recommend that any Military personnel who have attained Pay Level 6A or higher as a Vehicle Technician (411), would qualify to apply for examination."

> "In extenuating circumstances, we could possibly accept candidates at the Pay Level 5B, providing the examination application was accompanied by a supporting recommendation from the Unit Commanding Officer."

> "Military personnel in Pay Levels 3, 4 or 5A would require 3, 2 and 1 year respectively in civilian Motor

New Brunswick: (continued)

Vehicle Repair before their applications could be considered. This is when we consider the civilian Motor Vehicle Repair Trade (Mechanical) as a four-year apprenticeable trade."

"In checking over the duties involved in Air Frame Technician (512), Aviation Technician (513), and Refinisher Technician (563), it is noted that the work is limited to aircraft, and in very few instances would the tasks compare to what we call Motor Vehicle Body Repairer and Painter Trade. No one in the Military trades 512, 513 or 563 would automatically qualify to be examined in the civilian trade of Motor Vehicle Body Repairer and Painter. Although, the Trade Examination Officer feels that credits up to three years out of the required five years could be granted to personnel who have attained Pay Level 5B, two years of actual occupation in a civilian Motor Vehicle Body Repairing and Painting shop should then qualify the candidates for examination."

"In the Specialty occupations of Motor Vehicle Repair (Bus and Transport), Motor Vehicle Repair (Electrical and Fuel Systems), and Motor Vehicle Repair (Steering, Suspension and Brakes), the Trade Examination Officer feels that any military personnel who have attained Pay Level 5B should serve at least one year in the civilian occupations before qualifying for examination in any of these three trades."

"Generally speaking, we do not treat members of the military any different than civilians. Our only requirement for eligibility to write certification examinations is time, usually five years of trade employment. We have no additional requirement for eligibility for the Interprovincial Examination."

Northwest Territories:

"We have not been able to complete these forms to the extent that you require, as we have had very few applications from Military personnel seeking trades certification in the N.W.T.; any that we have had, we have used the equivalency chart prepared by the Province of Ontario as a guideline and evaluated each on an individual basis, particularly with respect to trade work history out of the Armed Forces."

Ontario:

> "In the summer of 1976, it was arranged with officials at CFB Borden for service Cooks (861) when they had completed their Pay Level 5 examinations to write also the Certificate of Qualification for the civilian Cook trade. This was arranged so that Cooks when leaving the service at some point in the future, would have a trade recognized by civilian Cooks and Chefs. Although the Cook Certificate of Qualification examinations are written in Ontario, those who write and obtain a mark of 70 per cent or better receive a Red Seal which means they are qualified as Cooks in all of those provinces who have signatures to the Red Seal agreement."
>
> "We are currently working with Base Borden to include Bakers in this arrangement, with a possibility of Radio and T.V. also being included at a later date. This is expected to set a precedent for other trades having civilian equivalencies."
>
> "This information [Ontario Guideline Chart] has been prepared in somewhat different format than was suggested by your outline [Researcher's outline]; however, this was necessary so that school excusals could be shown," (see Sample Chart).
>
> "With respect to the Interprovincial Red Seal, the only way that a Journeyman can qualify for a Red Seal is to obtain a mark of 70 [per cent] or better on his Certificate of Qualification examination. He cannot obtain the Seal through extra time in the trade in which he is qualified."

Quebec:

> "Anyone who has a qualification certificate issued by a body empowered to do so under Quebec laws prior to this Regulation's effective date; or another province and duly recognized to the provisions of an agreement on the mutual recognition of vocational qualification shall be exempted from the qualification examination."
>
> "Apprenticeship is obligatory in each trade. The term of trade apprenticeship is equal to the number of periods stated. Each period equals 2,000 apprenticeship hours. The apprentice who has taken the required courses may obtain training credits in accordance with the established norms. Training credits granted to the apprentice are evenly divided over each of the apprenticeship periods and each period is shortened accordingly. The apprentice shall have his booklet and apprenticeship card revised at the end of each period."

Quebec: (continued)

> "Candidates who have taken equivalent courses and who hold an attestation of studies issued by a department or a recognized school may be exempted from the required courses."

Saskatchewan:

> "The relationship of Canadian Armed Forces Trade to those designated under our legislation is rather vague, and credit can only be given for portions of work performed under certain titles and Pay Levels."

> "Full credit can be expected for work performed in the following classifications:

PROVINCIAL TITLE	CANADIAN ARMED FORCES TITLE	CODE
Radio & T.V. Electronics	Radio Technician	221
Radio & T.V. Electronics	Communication Technician	224
Radio & T.V. Electronics	Radar Technician	231
Motor Vehicle Mechanic	Vehicle Technician	411
Radio & T.V. Electronics	Communication Systems Technician	522
Sheet Metal	Metals Technician only if work performed on metals 10 gauge (0.35mm) or lighter. 25 per cent of the time spent on either metal with maximum credit of 12 months	561
Machinist	Machinist	562
Carpentry	Structure Technician	612
Plumbing	Plumber Gas Fitter	613
Electrical	Electrician	614
Refrigeration and Air Conditioning	Refrigeration and Mechanical Technician	621
Cooking	Cook	861

Saskatchewan: (continued)

> "There is no automatic recognition of Canadian Armed Forces tradesmen. Each individual case is reviewed. Very little need for such policy to be surfaced in our province. The biggest problem we have is the lack of details provided by the Armed Forces personnel respect- to the type of work they have performed when they appear before our examination boards."

CHAPTER IV

SUMMARY, OBSERVATIONS, CONCLUSIONS, DESCRIPTION OF PROCEDURES USED, AND RECOMMENDATIONS

The final chapter of this research study will be divided into four sections. The first section is a summary of the study including research methodology. The second section deals with the observations and conclusions that arose from the completion of the research. The third section is devoted to a description of the procedures used by participants for accrediting military occupations. The fourth and final section of this chapter deals with the recommendations that resulted from the findings.

SUMMARY

The Problem

The major problem of this study was to describe the procedures that were used by individuals employed in the apprenticeship branches across Canada, to certify military occupations with similar counterpart civilian occupations.

The general objective for the study was supplemented with five ancillary objectives which were to identify the procedures presently in use by apprenticeship personnel to

certify military occupations with similar civilian occupations; to determine the criteria used by civilian authorities to identify military experience that is required for certification; to determine what level of military experience a service person must have before civilian authorities grant that person permission to write the various qualifying examinations required for an apprenticeship; to determine which military occupations were considered certifiable by civilian certifying agencies; and to determine if the Bureau of Apprenticeship and Training in the United States had a set of guidelines that it used to equate military occupations of its Armed Services with occupations found in the civilian sector.

Related Literature

A review of the indices directed toward educational research revealed that there were no other research studies conducted, or that were completed in Canada that were similar, or that had a direct relationship to this investigation.

Publications dealing with related topics were reviewed. Those that were reviewed and reported in this study included: an explanation of several pieces of federal legislation both in Canada and the United States that funded vocational education at the secondary school level; an explanation of the clustering of vocational education program of studies in the United States and in Canada in the past two decades; the

Canadian Armed Forces Reorganization program; the apprenticeship training program in Canada with emphasis on Alberta; and research that had been completed with implications for this study. A detailed report of the literature that was related to this study is presented in the second chapter of this report.

Population and Percentage of Returns

To determine the population for the study, a list of participants was obtained from the Alberta Apprenticeship and Trade Certification Office. The list included the names and addresses of the apprenticeship directors from the ten provinces and the two territories. All 12 participated in the study and returned instruments that were usable. This represented a return of 100 per cent.

Methodology and Instrumentation

A major concern of the researcher in conducting this study was the design of the research instrument, one that could be used to collect data from each of the participants.

To design this instrument, several on-site interviews were held with selected members of the apprenticeship branches of Alberta, British Columbia and Quebec. A current list of military occupations that had the potential to be certified by civilian certifying agencies was obtained from

the Military/Civilian Training Accreditation Committee. The military occupations on this list were categorized into trade groups and trade group series ranging from 000 to 999. From the 99 military trades on the list only 43 military occupations were considered as certifiable by civilian authorities. These 43 occupations were part of the research instrument.

Prior to being used in the major investigation, the research instrument was reviewed by selected members of the Department of Industrial and Vocational Education, and a specialist in instrument design from the Department of Educational Psychology, Faculty of Education, The University of Alberta. Following the suggestions and recommendations made by these individuals, the research instrument was redesigned and was used in a pilot study with selected members of the Alberta Apprenticeship and Trade Certification Branch who had responsibility for certifying military occupations with similar counterpart civilian occupations. The instrument used in the major investigation was pretested in the pilot study. The purposes of the pilot study were to determine content validity; to determine overlap of question; to determine question sequence; to determine question ambiguity; to determine if additional questions were needed; and to determine the amount of time required to complete the instrument. Personnel from the Alberta Apprenticeship Branch were selected to participate in the pilot study because they were knowledgeable about the research, they were readily available, and they were responsible for certifying a military trade with a counterpart civilian trade. The result of the pilot study indicated some revisions were needed in the

instrument before it could be used in the major investigation.

These revisions were made and a covering letter was prepared and mailed to directors of apprenticeship branches of the ten provinces and the two territories. This letter provided each director with information and purpose of the study, the role of the director or a subordinate in the study, and the dateline date for the completion of the research instrument. A stamped, self-addressed envelope was provided for the return of completed instrument.

Research data and comments made by participants were collected with the research questionnaire. These data were placed in tabular form for ease of interpretation.

OBSERVATIONS AND CONCLUSIONS

Observations

The following are selected observations made by the researcher in conducting the various phases of the investigation.

In review, the publicly-supported training of apprentices, who have entered into contract with an employer to learn a skilled trade through work experience, and short periods of classroom instruction, are registered with provincial or territorial certifying agencies. The directors of the apprenticeship branches are responsible for the administration of the training programs under the terms of the Apprenticeship Act and its regulations in the various provinces and territories.

It was observed that the period prescribed for the completion of an apprenticeship program varies according to the trade and the province or territory concerned, but usually varies from 3 to 6 years depending upon military trade experience.

It was observed that not all participating jurisdictions recognize the same number of military trades for civilian certification.

It was observed that all of the participants involved in the study are involved in the Interprovincial Red Seal program.

It was observed that the concept of granting apprenticeship credit for military trades has begun to emerge in the United States. Since April 1976, a limited number of military trades both in the Army and the Navy received recognition as being apprenticeable from civilian registration authorities. There are a limited number of military occupations where soldiers or sailors who are registered as apprentices are eligible to receive credit toward a civilian apprenticeship program.

Conclusions

The data that were collected in the research investigation were used to formulate the following conclusions:

Data from the study show that only 8 of the 12 participants used some form of a guideline for equating military occupations with similar counterpart civilian occupations.

All participants used as one of their criteria, proof of time spent on-the-job when an appropriate level of military trade experience for service personnel seeking civilian journeymen certification was identified. Six of the participants used as one of their criteria, proof of formal trade training.

One of the major deficiencies of military personnel seeking apprenticeship qualification with civilian agencies was that these personnel could not provide adequate proof of time spent in a military trade.

Another major deficiency was that military personnel had difficulty passing the highest level of apprenticeship qualification examination. These personnel were also deficient in providing civilian certifiers with proof of their formal training in a military occupation.

Related to apprenticeship qualification is trade certification. Service personnel seeking trade certification showed the following deficiencies when seeking trade certification: proof of time in the trade; their military trade was incompatible with the civilian trade; they could not pass the journeyman examination, or they lack the formal training in a selected occupation.

The maximum amount of credits allowable to any military applicant by any civilian certifying agency is 5 years of credit toward journeyman certification, and the minimum is 3 years of credit.

Not all provinces or territories recognized the same number of military trades for civilian certification. The

number of military trades recognized range from a low of 3 to a high of 18.

The time required by skilled military personnel before they are permitted to write either the Provincial Journeyman Examination or the Interprovincial Journeyman Examination, ranges from a minimum of 3 years of military trade experience to a maximum of 7 years of military trade experience.

Of the 43 military trades used in the research questionnaire, 24 are recognized as eligible for both provincial and interprovincial certification in the provinces and territories involved in this study. (See data in Table 6, pp. 113-118)

A DESCRIPTION OF THE PROCEDURES IN USE BY THE APPRENTICESHIP BRANCHES IN CANADA FOR ACCREDITING MILITARY OCCUPATIONS

This portion of the study is divided into 12 sections, one section for each of the ten provinces and the two territories.

ALBERTA

Certifying Agency: Alberta Advanced Education and Manpower

Address: Director of Apprenticeship and Tradesmen's
Qualification Branch,
4th Floor, IBM Building,
10808 - 98 Avenue,
Edmonton, Alberta.

Military Trades Recognized: 9

MILITARY TRADE CODE	MILITARY TRADE TITLE	CIVILIAN TRADE TITLE
221	Radio Technician	Radio & T.V. Service Technician
331	Electrical Technician	Electrician
411	Vehicle Technician	Motor Vehicle Mechanic
551	Instrument Electrical Technician	Instrument Mechanic
562	Machinist	Machinist

MILITARY TRADE CODE	MILITARY TRADE TITLE	CIVILIAN TRADE TITLE
612	Structures Technician	Carpenter
613	Plumber Gas Fitter	Plumber
621	Refrigeration and Mechanical Technician	Refrigeration and Air Conditioning
861	Cook	Cook

Compulsory Certified Trades: 5

MILITARY TRADE CODE	MILITARY TRADE TITLE	CIVILIAN TRADE TITLE
221	Radio Technician	Radio & T.V. Service Technician
331	Electrical Technician	Electrician
411	Vehicle Technician	Motor Vehicle Mechanic
613	Plumber Gas Fitter	Plumber
621	Refrigeration and Mechanical Technician	Refrigeration and Air Conditioning

Most designated trades in this province require compulsory certification. Military trade, Plumber Gas Fitter (613) has divided into two separate trades, Plumber and Gas Fitter.

APPLICATION PROCEDURE FOR MILITARY APPLICANTS

Each military applicant must make application to the Provincial Tradesmen's Qualification and Certification Branch Office for permission to write the appropriate trade examination(s).

Each military applicant must provide proof of acceptable

work experience in the designated trade that is stated in the provincial regulation for that trade.

Entrance Requirements:

While in the service, military personnel must provide proof of formal training in the designated trade areas; must possess a minimum education in the designated trade; and must provide the amount of time actively employed in the designated trade in order to write the Journeyman Certification Examination.

Upon separation from the military, prospective ex-service tradesman must be employed with an employer who is a journeyman or employs a journeyman for the purpose of apprenticeship qualification.

The employer and the ex-service person must be prepared to enter into an apprenticeship agreement.

BRITISH COLUMBIA

Certifying Agency: Department of Labour

Address: Director of Apprenticeship and Industrial Training,
4211 - Kingsway,
Burnaby, B.C. V5H 3Y6

Military Trades Recognized: 6

MILITARY TRADE CODE	MILITARY TRADE TITLE	CIVILIAN TRADE TITLE
052	Lineman	Electrician - Communications
562	Machinist	Machinist
613	Plumber Gas Fitter	Plumber
614	Electrician	Electrician
621	Refrigeration and Mechanical Technician	Refrigeration and Air Conditioning
861	Cook	Cook

Compulsory Certified Trades: 2

MILITARY TRADE CODE	MILITARY TRADE TITLE	CIVILIAN TRADE TITLE
613	Plumber Gas Fitter	Plumber
621	Refrigeration and Mechanical Technician	Refrigeration and Air Conditioning

In this province, some trades require compulsory certification. Both military trades, Plumber Gas Fitter (613) and Refrigeration and Mechanical Technician (621) have been divided into two separate trades, Plumber and Gas Fitter, and Refrigeration and Mechanical. Of these two trades, only the Plumber and Refrigeration portion of the trade is recognized by British Columbia.

APPLICATION PROCEDURE FOR MILITARY APPLICANTS

Military candidates must apply to the Provincial Qualification and Certification Branch Office for permission to write

the appropriate trade examination(s).

Military applicants must provide proof of the required length of time actively employed in the designated trades.

Entrance Requirements:

A military person must provide documentation to show time spent in the trade according to the Provincial Regulations governing applications for trade qualification. In a designated trade, the trade name must be the same as that used in the title or in provincial legislation for that trade.

Military tradesmen must sort out the time spent in a specific trade area such as Carpenter who covers two or more trade areas such as Carpentry as well as Masonry work.

Military personnel should take formal upgrading equivalent courses prior to writing trade qualification examinations.

Upon separation from the military, a skilled ex-service person may write the Interprovincial Red Seal Examination on the last year of the indenture, normally a year after the formal apprenticeship program.

MANITOBA

Certifying Agency: Department of Labour

Address: Director of Apprenticeship and Tradesmen's
Qualification,
609 Norquay Building,
Winnipeg, Manitoba, R3C 0P8

Military Trades Recognized: 4

MILITARY TRADE CODE	MILITARY TRADE TITLE	CIVILIAN TRADE TITLE
411	Vehicle Technician	Motor Vehicle Mechanic
562	Machinist	Machinist
613	Plumber Gas Fitter	Plumber
621	Refrigeration and Mechanical Technician	Refrigeration and Air Conditioning

Compulsory Certified Trades: 0

Voluntary certification applies to all trades in this province except Construction Electricians, which require to have a licence, which is renewable yearly.

APPLICATION PROCEDURE FOR MILITARY APPLICANTS

All military applicants must apply to the Provincial Tradesmen's Qualification and Certification Branch Office for permission to write the appropriate trade qualification and/or certification examination(s).

Together with the application, all military applicants must also present proof of the required length of time actively employed in the designated trades.

Entrance Requirements:

A military person must provide proof of time spent on-the-job. The military trade must be wholly compatible with the civilian designated trade.

Application must be accompanied by documentary proof of required employment as well as a ten dollar examination and certificate fee. The application and documents are reviewed by examination authority, and if approved, the applicant is notified for examination(s). If the candidate successfully passes the examination, a Certificate of Qualification is issued.

Regardless of the trade classification, a military tradesperson must accumulate a total of 1800 hours of work experience per year in order to be eligible for examination(s).

Military candidates in trades such as Vehicle Technician (411), Machinist (562), and Plumber Gas Fitter (613) must achieve a mark of 65 to 69 per cent on the trade examination(s) before a Provincial Certificate is issued. However, to have the Interprovincial Red Seal affixed to the Provincial Certificate, military candidates must achieve a mark of 70 per cent or higher on the trade examination(s).

In granting credits to service personnel for apprenticeship training, the director considers the nature and quality of any course of study, training, or experience gained prior to the application.

NEW BRUNSWICK

Certifying Agency: Department of Labour

Address: Director of Industrial Training and Certification
Branch,
P.O. Box 6000,
Fredericton, New Brunswick, E3B 5H1

Military Trades Recognized: 13

MILITARY TRADE CODE	MILITARY TRADE TITLE	CIVILIAN TRADE TITLE
311	Marine Engineering Technician	Steamfitter
321	Hull Technician	Sheet Metal Worker
331	Electrical Technician	Electrician
411	Vehicle Technician	Motor Vehicle Mechanic
561	Metals Technician	Auto Body Repairer
562	Machinist	Machinist
612	Structures Technician	Carpenter
613	Plumber Gas Fitter	Plumber
614	Electrician	Electrician
615	Construction and Maintenance Technician	Building Foreman
621	Refrigeration and Mechanical Technician	Refrigeration and Air Conditioning

MILITARY TRADE CODE	MILITARY TRADE TITLE	CIVILIAN TRADE TITLE
623	Stationary Engineer	Stationary Engineer
625	Mechanical Systems Technician	Steamfitter

Compulsory Certified Trades: 13

In the Province of New Brunswick, all trades require compulsory certification. These military occupations are listed above under Military Trades Recognized.

APPLICATION PROCEDURE FOR MILITARY APPLICANTS

Military trades-person must apply to the Provincial Tradesmen's Qualification and Certification Branch Office for permission to write the appropriate trade examination(s).

All military candidates must provide proof of time spent on-the-job while employed in the designated trades.

Entrance Requirements:

The requirement for eligibility to write trade certification examinations by military personnel is time spent on-the-job, usually five years of designated trade employment.

There is no additional requirement by military personnel for eligibility to write Interprovincial Examinations.

This province requires a set number of years of experience. An individual's military record will be sufficient document to determine if military experience is parallel to civilian designated trade.

This province has no formal training in the designated trade area or educational requirements for writing the appropriate trade certification examination.

In the Motor Vehicle Repair Trade, Trade Examination Officer may recommend that any military personnel with Pay Level 6A or higher as a Vehicle Technician (411) would qualify to apply for examination. In some circumstances, candidates with Pay Level 5B could possibly be accepted if the application was accompanied by a supporting recommendation from the unit Commanding Officer.

Military personnel in Pay Levels 3, 4, or 5A would require 3, 2, and 1 year of training in a civilian Motor Vehicle Repair Trade before an application could be considered.

Airframe Technician (512), Aviation Technician (513), and Refinisher Technician (563) are limited to aircraft trades, and in very few instances these tasks are comparable to what calls for in Motor Vehicle Body Repairer and Painter Trade. No one with military trade codes 512, 513, or 563 would automatically qualify for examination. However, Trade Examination Officer may grant credits up to three years out of a possible five to personnel who achieve Pay Level 5B. Subsequent to this credit given, an additional two years of actual occupation in a civilian Motor Vehicle Body Repairing and Painting

shop would qualify an apprentice for examination.

In specialty occupations of Motor Vehicle Repair (Bus and Transport), (Electrical and Fuel Systems), and (Steering, Suspension, and Brakes), any military personnel who has achieved the rank of Corporal and/or Pay Level 5B would have to serve at least one year in a civilian occupation before qualifying to write the appropriate trade certification examination in any of the above three trades.

In general, this province requires proof of documentation from military personnel similar to civilian personnel requirements.

NEWFOUNDLAND

Certifying Agency: Department of Manpower and Industrial Relations

Address: Director of Manpower Training Division,
Confederation Building,
St. John's, Newfoundland.

Military Trades Recognized: 8

MILITARY TRADE CODE	MILITARY TRADE TITLE	CIVILIAN TRADE TITLE
052	Lineman	Electrician - Communications
331	Electrical Technician	Electrician
411	Vehicle Technician	Motor Vehicle Mechanic

MILITARY TRADE CODE	MILITARY TRADE TITLE	CIVILIAN TRADE TITLE
562	Machinist	Machinist
613	Plumber Gas Fitter	Plumber
614	Electrician	Electrician
621	Refrigeration and Mechanical Technician	Refrigeration and Air Conditioning
861	Cook	Cook

Compulsory Certified Trades: 1

MILITARY TRADE CODE	MILITARY TRADE TITLE	CIVILIAN TRADE TITLE
411	Vehicle Technician	Motor Vehicle Mechanic

Compulsory or non-compulsory trade certification depends entirely on the trade and the area in which a qualified person wishes to practise.

APPLICATION PROCEDURE FOR MILITARY APPLICANTS

All military personnel must apply to the Provincial Tradesmen's Qualification and Certification Branch Office for permission to write the appropriate trade qualification and/or certification examination(s).

All military personnel must produce proof of required length of time actively employed in the designated trades as well as to provide proof of formal training in the designated

trades.

Entrance Requirements:

A military individual must show proof of minimum education if applicant requires training. This is a qualification under the registering procedures.

A military individual who has shown proof of time spent on a job must indicate type of work performed in the designated trade area, and level of proficiency achieved by the applicant in the designated trade.

This province accepts military training as work experience toward trade certification in the designated trades.

Service personnel who lack the knowledge of Codes as well as Provincial and Municipal regulations in the Plumbing and Electrical trades must take additional formal training in the designated trade areas prior to writing the qualifying and/or certifying examinations.

NORTHWEST TERRITORIES

Certifying Agency: Department of Economic Development

Address: Head of Apprenticeship,
Employment Division,
Government of the Northwest Territories,
Yellowknife, N.W.T., X0E 1H0

Military Trades Recognized: 18

MILITARY TRADE CODE	MILITARY TRADE TITLE	CIVILIAN TRADE TITLE
052	Lineman	Electrician - Communications
224	Communications Technician	Radio & T.V. Service Technician
231	Radar Technician	Radio & T.V. Service Technician
311	Marine Engineering Technician	Steamfitter
321	Hull Technician	Sheet Metal Worker
331	Electrical Technician	Electrician
411	Vehicle Technician	Motor Vehicle Mechanic
522	Communications Systems Technician	Radio & T.V. Service Technician
523	Radar Systems Technician	Radio & T.V. Service Technician
551	Instrument Electrical Technician	Electrician
561	Metals Technician	Auto Body Repairer
562	Machinist	Machinist
612	Structures Technician	Carpenter
613	Plumber Gas Fitter	Plumber
614	Electrician	Electrician
621	Refrigeration and Mechanical Technician	Refrigeration and Air Conditioning
623	Stationary Engineer	Stationary Engineer
861	Cook	Cook

Compulsory Certified Trades: This section is incomplete.

In the Northwest Territories, certification of trades is

not compulsory.

All Interprovincial Status trades except Bricklayer are designated trades in the Territories.

APPLICATION PROCEDURE FOR MILITARY APPLICANTS

All eligible military applicants who seek permission to write the appropriate trade certification examination(s) must first make application to the Provincial Tradesmen's Qualification and Certification Branch Office.

Accompanying this application, all military personnel must provide documents which indicate required length of time actively employed in the designated trades must be shown for that trade.

Entrance Requirements:

Candidates from the military should provide proof of formal training in the designated trades; however, if the applicant can provide proof of required time in the trade, technical training is not required.

All military applicants must describe work experience or any other trade experience with different employers before writing trade certification examinations particularly in reference to military work experience from skilled service personnel.

NOVA SCOTIA

Certifying Agency: Department of Labour

Address: Director of Apprenticeship and Tradesmen's
Qualifications,
Workmen's Compensation Building,
South Street,
Halifax, Nova Scotia, B3J 2T8

Military Trades Recognized: 6

MILITARY TRADE CODE	MILITARY TRADE TITLE	CIVILIAN TRADE TITLE
052	Lineman	Electrician - Communications
562	Machinist	Machinist
613	Plumber Gas Fitter	Plumber
614	Electrician	Electrician
621	Refrigeration and Mechanical Technician	Refrigeration and Air Conditioning
861	Cook	Cook

Compulsory Certified Trades: 2

MILITARY TRADE CODE	MILITARY TRADE TITLE	CIVILIAN TRADE TITLE
613	Plumber Gas Fitter	Plumber

MILITARY TRADE CODE	MILITARY TRADE TITLE	CIVILIAN TRADE TITLE
614	Electrician	Electrician

Whether a trade is compulsory or not, it varies with the trade and its regulations governing that trade. This province has divided military trade Plumber Gas Fitter (613) into two separate trades, Plumber and Gas Fitter. Only the Plumber portion of the trade is recognized for trade certification.

APPLICATION PROCEDURE FOR MILITARY APPLICANTS

For permission to write the appropriate trade certification examination(s), all military trades-person must apply to the Provincial Tradesmen's Qualification and Certification Branch Office.

The second requirement by military participants is to provide proof of work experience actively employed in the designated trades.

Entrance Requirements:

Each trade in this province varies with the Trades Regulations. Therefore, each application is evaluated for commonality of work experience achieved by military applicant in the designated trade area.

ONTARIO

Certifying Agency: Ministry of Colleges and Universities

Address: Director of Manpower Training Branch,
Mowat Block - 10th Floor,
900 Bay Street,
Toronto, Ontario, M7A 1C2

Military Trades Recognized: 32

MILITARY TRADE CODE	MILITARY TRADE TITLE	CIVILIAN TRADE TITLE
041	Field Engineer	Construction Millwright
052	Lineman	Electrician - Communications
131	Photographic Technician	Photographer
221	Radio Technician	Radio & T.V. Service Technician
223	Teletype and Cypher Technician	Radio & T.V. Service Technician
224	Communications Technician	Radio & T.V. Service Technician
231	Radar Technician	Radio & T.V. Service Technician
251	Radioman (Sea)	Radio & T.V. Service Technician
252	Communications Technician (Sea)	Radio & T.V. Service Technician
311	Marine Engineering Technician	Steamfitter
321	Hull Technician	Sheet Metal Worker
331	Electrical Technician	Electrician
411	Vehicle Technician	Motor Vehicle Mechanic
511	Aero Engine Technician	Motor Vehicle Mechanic
512	Airframe Technician	Auto Body Repairer

MILITARY TRADE CODE	MILITARY TRADE TITLE	CIVILIAN TRADE TITLE
513	Aviation Technician	Motor Vehicle Mechanic
522	Communications Systems Technician	Radio & T.V. Service Technician
523	Radar Systems Technician	Radio & T.V. Service Technician
525	Avionics Technician	Electrician
551	Instrument Electrical Technician	Electrician
561	Metals Technician	Auto Body Repairer
562	Machinist	Machinist
563	Refinisher Technician	Auto Painter
612	Structures Technician	Carpenter
613	Plumber Gas Fitter	Plumber
614	Electrician	Electrician
621	Refrigeration and Mechanical Technician	Refrigeration and Air Conditioning
622	Electrical Generating Systems Technician	Electrician
624	Water Sanitation and Pollution Technician	Plumber
625	Mechanical Systems Technician	Steamfitter
861	Cook	Cook
892	Draughtsman	Draftsman

Compulsory Certified Trades: This section is incomplete.

In Ontario, some programs require both compulsory attendance at a trade school, and compulsory certification. Other training programs only involve compulsory in-classroom formal training, and certification is not a requirement.

APPLICATION PROCEDURE FOR MILITARY APPLICANTS

For permission to write the appropriate Provincial Tradesmen's Qualification Examination(s) in Ontario, all military applicants must make application to the Provincial Tradesmen's Qualification and Certification Branch Office.

Together with the application, a military individual must provide proof of the required length of time on-the-job training as well as the required period of formal military training in the designated trade as evidenced by the trainee's qualification record sheet for that trade.

Entrance Requirements:

If the military applicant has shown proof of time actively employed in the designated trade as well as present proof of formal military training in the designated trade area, then the applicant does not require to show proof of minimum education. However, all on-the-job experience must be accumulated after the military tradesman's 16th birthday.

A major criterion in the Province of Ontario is the formal trade training level accomplished by each military applicant.

In order to obtain the Trade Certificate of Qualification, all military personnel in Service Trade Cook (861), Pay Level 5, must have their applications approved by the Ontario Apprenticeship Branch Office before examination(s) for the civilian Cook trade can be written. If military candidates wish to have the Interprovincial Red Seal affixed to their Provincial Journeyman Certificate, these skilled tradesmen must achieve a mark of 70 per cent or higher on their Trade Qualification Examination. However, if a mark of 65 to 69 per cent is achieved, only the Provincial Journeyman Certificate can be issued to military tradesmen.

PRINCE EDWARD ISLAND

Certifying Agency: Department of Labour

Address: Director of Apprenticeship
Province of Prince Edward Island,
60 Belvedere Avenue,
Charlottetown, P.E.I., C1A 7X8

Military Trades Recognized: 11

MILITARY TRADE CODE	MILITARY TRADE TITLE	CIVILIAN TRADE TITLE
052	Lineman	Electrician - Communications
331	Electrical Technician	Electrician
411	Vehicle Technician	Motor Vehicle Mechanic
562	Machinist	Machinist
611	Construction Engineering Technician	Draftsman, Heating and Ventilation
613	Plumber Gas Fitter	Plumber
614	Electrician	Electrician
621	Refrigeration and Mechanical Technician	Refrigeration and Air Conditioning
623	Stationary Engineer	Stationary Engineer
861	Cook	Cook
892	Draughtsman	Draftsman

Compulsory Certified Trades: 4

MILITARY TRADE CODE	MILITARY TRADE TITLE	CIVILIAN TRADE TITLE
331	Electrical Technician	Electrician
411	Vehicle Technician	Motor Vehicle Mechanic
613	Plumber Gas Fitter	Plumber
614	Electrician	Electrician

In Prince Edward Island, certification is not compulsory in most trades.

APPLICATION PROCEDURE FOR MILITARY APPLICANTS

Application to write the appropriate trade qualification and/or certification examination(s), military applicants must submit to the Provincial Tradesmen's Qualification and Certification Branch Office.

To accompany the application, all military candidates must provide the following documents: proof of acceptable work experience actively employed in the designated trades; proof of formal military training in the designated trades; and proof of minimum education in the designated trades or a transcript of high school marks for that trade.

Entrance Requirements:

All information in reference to entry are stated on the official application form from this province.

All the military occupations in the Canadian Forces Trade Specification, CFP 123(2) part four may be evaluated with this province's existing designated trades as entrance requirement.

Military trades such as Electrical Technician (331) and Electrician (614) must be first evaluated in reference to their common skills and knowledge before acceptance into this province's designated trades for practice.

A military trades-person must be a qualified Provincial

Journeyman for at least 1 year before being eligible for an Interprovincial Examination.

QUEBEC

Certifying Agency: Direction Generale de la Main-d'oeuvre

Address: Directeur de la Qualification Professionnelle,
255 est, Boulevard Cremazie,
Montreal, Quebec, H2M 1L5

Military Trades Recognized: 17

MILITARY TRADE CODE	MILITARY TRADE TITLE	CIVILIAN TRADE TITLE
041	Field Engineer	Construction Millwright
052	Lineman	Electrician - Communications
311	Marine Engineering Technician	Steamfitter
321	Hull Technician	Sheet Metal Worker
331	Electrical Technician	Electrician
411	Vehicle Technician	Motor Vehicle Mechanic
431	Electro-Mechanical Technician	Electrical Repairman
551	Instrument Electrical Technician	Electrician
561	Metals Technician	Auto Body Repairer
562	Machinist	Machinist

MILITARY TRADE CODE	MILITARY TRADE TITLE	CIVILIAN TRADE TITLE
611	Construction Engineering Technician	Draftsman, Heating and Ventilation
612	Structures Technician	Carpenter
613	Plumber Gas Fitter	Plumber
614	Electrician	Electrician
621	Refrigeration and Mechanical Technician	Refrigeration and Air Conditioning
622	Electrical Generating Systems Technician	Electrician
623	Stationary Engineer	Stationary Engineer

Compulsory Certified Trades: This section is incomplete.

Most of the formal in-school classroom training is done on a pre-employment basis, because neither the employer nor the ex-military applicant is bound by an apprenticeship contract upon separation from the Armed Forces. It is this system of formal training that the Province of Quebec is different from the rest of the provinces and territories in Canada.

APPLICATION PROCEDURE FOR MILITARY APPLICANTS

For permission to write the appropriate Provincial Tradesmen's Qualification Examination(s), military personnel first make application to the Provincial Tradesmen's Qualification and Certification Branch Office.

A military trades-person must submit an official application form which requires the length of time actively employed in the designated trade, and must also provide proof of acceptable formal military training in the designated trade as evidenced in the trainee's qualification record for that trade.

Entrance Requirements:

Military personnel discharged at the rank of Private and/or Pay Level 3 or 4 must first complete additional field experience training before provincial trade examinations are given.

Apprenticeship Training in the Province of Quebec consists of periods; each period equals 2,000 apprenticeship hours. An ex-military apprentice may achieve this level at the completion of 4 or 5 years of high school while in the service with an average mark of 60 per cent or higher on all compulsory school subjects. However, if an ex-military applicant has achieved less than 60 per cent average on all the compulsory school subjects, then a full 5 years of high school attendance is required before provincial trade examinations are granted.

To be eligible for Apprenticeship Training, an ex-military apprentice must first be hired by an employer, then the applicant can apply for the apprenticeship training program under the Canada Labour and Manpower Program for that trade.

Skilled military tradesmen who seek provincial certifying examinations must be in the building trades.

A military trades-person's Unit Employment Record of Qualification must be shown in order to write the qualification or certification examination for that trade.

At the beginning of apprenticeship training, an ex-military applicant receives 1,000 hours, and another 1,000 hours at the end of the training. This can only be accomplished with 5 years of high school with marks of 60 per cent or higher on all acceptable school subjects. However, the employer may hire an ex-military applicant regardless of the education achieved; when this happens, this applicant receives only 500 hours toward on-the-job experience. Another stipulation, if this military applicant completed only 4 out of 5 years of technical schooling at a technical institute, this individual will only receive a maximum of 3,000 hours toward on-the-job experience and the remaining time, the military applicant must achieve the work experience from on-the-job training.

Military applicants who have proof of equivalent technical courses taken from a recognized institute may be exempted from taking additional required courses.

SASKATCHEWAN

Certifying Agency: Department of Labour

Address: Director of Apprenticeship and Tradesmen's
Qualification Branch,
Toronto-Dominion Bank Building,
1914 Hamilton Street,
Regina, Saskatchewan.

Military Trades Recognized: 13

MILITARY TRADE CODE	MILITARY TRADE TITLE	CIVILIAN TRADE TITLE
052	Lineman	Electrician - Communications
221	Radio Technician	Radio & T.V. Service Technician
224	Communications Tech	Radio & T.V. Service Technician
231	Radar Technician	Radio & T.V. Service Technician
411	Vehicle Technician	Motor Vehicle Mechanic
522	Communications Systems Technician	Radio & T.V. Service Technician
523	Radar Systems Tech	Radio & T.V. Service Technician
562	Machinist	Machinist
612	Structures Technician	Carpenter
613	Plumber Gas Fitter	Plumber
614	Electrician	Electrician
621	Refrigeration and Mechanical Technician	Refrigeration and Air Conditioning
861	Cook	Cook

Compulsory Certified Trades: 10

MILITARY TRADE CODE	MILITARY TRADE TITLE	CIVILIAN TRADE TITLE
221	Radio Technician	Radio & T.V. Service Technician
224	Communications Tech	Radio & T.V. Service Technician
231	Radar Technician	Radio & T.V. Service Technician
411	Vehicle Technician	Motor Vehicle Mechanic
522	Communications Systems Technician	Radio & T.V. Service Technician
523	Radar Systems Tech	Radio & T.V. Service Technician
612	Structures Technician	Carpenter
613	Plumber Gas Fitter	Plumber
614	Electrician	Electrician
621	Refrigeration and Mechanical Technician	Refrigeration and Air Conditioning

Most trades in this province have compulsory certification.

APPLICATION PROCEDURE FOR MILITARY APPLICANTS

All military personnel who seek permission to write the appropriate trade qualification and/or certification examination(s) must apply to the Provincial Tradesmen's Qualification and Certification Branch Office.

To accompany the official application, the following documents by the military applicant must be provided: proof of the required length of time spent on-the-job in the

designated trade, and proof of formal technical training in the designated trade.

Entrance Requirements:

Each military individual who applies for certification is reviewed by the apprenticeship board for work experience as well as formal technical training achieved in the designated trade area.

Guidelines that are used for certifying military occupations by this province are restricted to military trade experience rather than specified pay level in a military classification.

In some instances, additional credit is given to military applicants for courses taken that are compatible with civilian technical courses in parallel periods of employment in the designated trade areas.

Time spent on-the-job in some instances by military personnel may only represent a portion of the duties within a particular military classification. The duties described by certifiers may overlap into other civilian trades.

This province allows a military applicant to write for the Provincial Journeyman Certification Examination if the individual has less than 6 months to serve at the designated trade to qualify as a journeyman.

The following military trades: Radio Technician (221), Communications Technician (224), Radar Technician (231),

Vehicle Technician (411), Communications Systems Technician (522), Radar Systems Technician (523), Metals Technician (561), Structures Technician (612), and Refrigeration and Mechanical Technician (621) require military applicants to hold a valid Certificate of Status. This Certificate is not necessarily a Provincial Journeyman Certificate.

Military personnel who practised in the trades of Plumber Gas Fitter (613), and Electrician (614) must become indentured after December 1, 1976.

The relationship between military occupations and those designated civilian occupations under this province's legislation is rather vague. Therefore, only partial credits are given to skilled military personnel toward work experience; and these credits are given to only certain military trades titles and/or pay levels.

YUKON TERRITORY

Certifying Agency: Department of Education

Address: Industrial Training Co-ordinator,
Apprenticeship and Tradesmen's Qualifications,
Government of the Yukon Territory,
Box 2703,
Whitehorse, Yukon.

Military Trades Recognized: 3

MILITARY TRADE CODE	MILITARY TRADE TITLE	CIVILIAN TRADE TITLE
562	Machinist	Machinist
613	Plumber Gas Fitter	Plumber
614	Electrician	Electrician

Compulsory Certified Trades: This section is incomplete.

The Yukon Territory has only 2 trades, Industrial and Construction Electrician for certification.

APPLICATION PROCEDURE FOR MILITARY APPLICANTS

Military candidates seeking permission to write the appropriate trade qualification and/or certification examination(s) in the Yukon Territory should make application to the Apprenticeship and Tradesmen's Qualification Branch Office.

Military applicants must present proof of required length of time actively employed in the designated trade as well as proof of formal military training in the designated trade as evidenced by the applicant's Unit Employment Record for that trade.

Entrance Requirements:

Entrance Requirement is the same for all applicants regardless whether they are military or civilian personnel, who are seeking certification requirements.

Military personnel with trade Electrician (614) are required to show proof of 4 years of work experience as an Electrician working in either the Industrial Electrical trade or Construction Electrical trade before permission is granted to write the Journeyman Certification Examinations. An equivalent of four years on-the-job training in the designated trade is 1800 hours annually for each of the 4 years of the apprenticeship. Electrician (614) requires 7200 hours actively employed in the designated trade before examination is given to any military individual.

RECOMMENDATIONS

The following recommendations are the results of the findings of this study:

Recommendations for Apprenticeship Branches

The following recommendations are made to the members of the apprenticeship branches who serve on informal committees to determine policy directed at apprenticeship training.

1. It is recommended that all provincial and/or territorial agencies responsible for certifying military occupations use the same guidelines when equating military occupations with similar counterpart civilian occupations.
2. It is recommended that a common policy be established by provincial and territorial apprenticeship directors that can be used to certify military occupations for either apprenticeship qualification or journeyman certification.
3. It is recommended that a standard set of criteria be established by both provincial and territorial apprenticeship directors for the purpose of identifying military work experience in a military trade so that work experience can be counted toward apprenticeship qualification or journeyman certification.

4. It is recommended that civilian agencies avoid the use of military pay levels when equating a military occupation with a counterpart civilian occupation. Lack of promotion in certain trades or a change in career pattern by military personnel while on active service could result in career stagnation for skilled military trades-person.

Recommendations for Military Authorities

Below are a number of recommendations that military authorities should take into consideration when working with personnel from civilian certifying agencies:

1. It is recommended that production of a brochure for military personnel be done jointly by the Department of National Defence and civilian agencies. The purpose of this brochure would be to describe the procedures to be followed by service personnel applying for apprenticeship qualification or journeyman certification.
2. It is recommended that military personnel responsible for individual training establish a tradesman's log book to record the hours actively spent on-the-job in order for service personnel to seek apprenticeship qualification or journeyman certification to document the time.

3. It is recommended that a laundry list of trade competencies be identified and that this list be enlarged upon as the service-person develops additional competencies. This list could become part of the service-person's log book when applying for apprenticeship qualification or journeyman certification.

Recommendations to Military Personnel Seeking Civilian Certification

The following recommendations are made to military personnel who may want to secure civilian apprenticeship qualification or journeyman certification:

1. It is recommended that service personnel upgrade their educational level when making application to a civilian certifying agency for apprenticeship qualification or journeyman certification.
2. It is recommended that service personnel in military trades such as Electrical Technician (331), Structures Technician (612), Plumber Gas Fitter (613), and Electrician (614) become knowledgeable in the building codes, and Provincial and Municipal regulations when applying for either apprenticeship qualification or journeyman certification.
3. It is recommended that service personnel document the time they spend in a skilled service trade, so

that this documentation can be placed in the hands of civilian authorities when applying for apprenticeship qualification or journeyman certification.

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APPENDIX A

THIS APPENDIX INCLUDES THOSE MILITARY OCCUPATIONS THAT HAVE BEEN IDENTIFIED BY THE MILITARY/CIVILIAN TRAINING ACCREDITATION COMMITTEE AS HAVING RELATED CIVILIAN TRADES.

Code	Military Trade Title	Abbr.	Related Civilian Trades
COMBAT TRADES			
011	Crewman	CRMN	Nil
021	Artilleryman	ARTYMN	Nil
031	Infantryman	INFMN	Nil
041	Field Engineer	FLD ENG	Highway Foreman, Clearing Highway Foreman, Grading Blaster Bridge Construction Foreman Highway Inspector
052	Lineman	LMN	Lineman Telephone Installer Line Foreman (Any Industry) Cable Splicer
061	Weaponman Surface	WPMN S	Nil
062	Weaponman Underwater	WPMN U	Blaster and Powerman Munitions Handler Foreman Mine Assembly Supervisor
063	Weapons Surface Technician	WS TECH	Nil
064	Weapons Underwater Technician	WU TECH	Nil
071	Firecontrolman	F CTLMN	Electronics Mechanic, Computer Electrical Instrument Repairman Electronics Foreman Radar Equipment Foreman
072	Firecontrol Technician	F CTL TECH	Nil
081	Observer	OBSVR	Nil
091	Flight Engineer	FLT ENG	Flight Engineer

Code	Military Trade Title	Abbr.	Related Civilian Trades
COMBAT SUPPORT TRADES			
111	Intelligence Operator	INT OP	Nil
121	Meteorological Technician	MET TECH	Weather Observer Weather Chart Preparer Radiosound Operator Meteorologist
131	Photographic Technician	PHT TECH	Photographer Photographic Equipment Repairman Film Processor
141	Topographical Surveyor	TOPO SVY	Surveyor Instrumentman Surveyor Topographical Tracer Geodetic Computer Photogrmmetrist Rodman Chainman, Surveying Notekeeper Draftsman, Map Map Compiler and Computer
151	Map Reproduction Technician	MAP REPRO TECH	Nil
161	Air Traffic Controller	AIR T CON	Airport-Control Operator Radio Operator (Air Transport) Radar Controller Air Traffic Controller
162	Air Traffic Control Asst	ATCA	Nil
171	Air Defense Technician	AD TECH	Computer Manual Data Processor DOT-Terminal Control and Surveillance Radar Computer Programmer
181	Boatswain	BOSN	Able Seaman Quartermaster Boatswain
191	Oceanographic Operator	OCEAN OP	Nil

Code	Military Trade Title	Abbr.	Related Civilian Trades
251	Radioman (Sea)	RAD SEA	Telegraphic Typewriter Installer Electronics Foreman Radio Chassis Aligner
252	Communications Technician (Sea)	COM TECH SEA	Communications Technician
261	Signalman (Sea)	SIG SEA	Manager, Delivery (Tel and Tel) Teletype Repairman Telegraph Installer Teletype Equipment Installer
271	Radar Plotter (Sea)	RDR PLTR	Tester Electronics Radar Repairman Radar Technician Radar Equipment Foreman
272	Radar Technician (Sea)	RDR TECH SEA	Inspector, Electronic Assembly Television Service and Repairman Electronics Technician Tester, Electronics Antenna Assembler Radio Repairman
281	Sonarman (Sea)	SONARMN	Nil
282	Sonar Technician	SONARTECH	Nil
291	Communicator Research	COM RSCH	Radio Operator Telegraphic Typewriter Operator Communications Instructor Traffic Manager, Telegraph

MARINE ENGINEERING TRADES

Code	Military Trade Title	Abbr.	Related Civilian Trades
311	Marine Engineering Technician	MAR ENG T	Marine Engineer, Ship and Boat Repair
312	Marine Engineering Mechanic	MAR ENG MECH	Nil

Code	Military Trade Title	Abbr.	Related Civilian Trades
COMMUNICATIONS AND RADAR TRADES			
211	Radio Operator	RAD OP	Radio Operator Apprentice Radio Operator Telegraphic Typewriter Operator
212	Teletype Operator	TEL OP	Telegraphic Typewriter Operator Teletype Maintenance Man
213	Communication Operator	COM OP	Radio Operator Apprentice Radio Operator Telegraphic Typewriter Operator Crytographer
221	Radio Technician	RAD TECH	Radio Mechanic II Electrician Radio Radio Equipment Foreman
222	Terminal Equipment Technician	TE TECH	Central Office Repairman (Tel and Tel) Transmission Engineer
223	Teletype and Cipher Technician	TEL TECH	Communications Technician Electronics Equipment Mechanic Teletype Maintenance Man
224	Communications Technician	COM TECH	Nil
231	Radar Technician	RDR TECH	Nil
242	Electronic Warfare Operator	EW OP	Nil
243	Electronic Warfare Technician	EW TECH	Nil
251	Radioman (Sea)	RAD SEA	Teacher, Communications Testing and Regulating Chief Traffic Manager, Telegraph Office Marine Radio Inspector

Code	Military Trade Title	Abbr.	Related Civilian Trades
321	Hull Technician	H TECH	Carpenter Ship (Water Transport) Carpenter Ship (Ship and Boat Building and Repair) Welder, Acetylene Welder, Arc Painter, Construction Plumber, Construction Tinsmith, Construction
331	Electrical Technician	E TECH	Electrical Repairman Electrician, Ship Electrician, Foreman, Ship
332	Maritime Electrical	MARIT ELEC	Nil
341	Clearance Diver	CL DIV	Diver Diver Helper Diver Pumper Instructor, Swimming Compressor, Engineer, Caisson Explosive Operator
342	Clearance Diver Technician	CL DIV TECH	Nil
LAND VEHICLE AND WEAPONS SUPPORT TRADES			
411	Vehicle Technician	VEH TECH	Automobile Mechanic Diesel Mechanic Garage Foreman Teacher, Vocational Industrial Safety Officer
421	Weapons Technician Land	W TECH L	Nil
423	Ammunition Technician	AMO TECH	Salvage Man (Ammunition) Inspector (Ammunition) I Inspector (Ammunition) IV Ordinance Man (Gov. Ser.) Superintendent (Magazine Area Ammunition) Proof Reader

Code	Military Trade Title	Abbr.	Related Civilian Trades
431	Electro-Mechanical Technician	ELM TECH	Instrument Maker Instrument Repairman Electrical Repairman Batteryman Electrical Instrument Repairman Electrical Appliance Serviceman Automobile Generator Repairman Electrician Automotive Electric Tool Repairman Electrician Foreman Automobile Foreman (Electrical Equipment) Instrument Inspector (Aircraft)
490	Performance Oriented Electronics Training	POET	Nil
AVIATION SUPPORT AND SHOP TRADES			
511	Aero Engine Technician	AE TECH	Airplane Mechanic Aircraft Engine Mechanic
512	Airframe Technician	AF TECH	Airplane Inspector Aircraft Engine Mechanic
513	Aviation Technician	AVN TECH	Airplane Inspector Aircraft Mechanic Aircraft Engine Mechanic
521	Integral Systems Technician	IS TECH	Aircraft Mechanic, Electrical and Radio Electronics Mechanic Electronics Technician Tester, Electronics Components Television Service and Repairman
522	Communications Systems Technician	CS TECH	Aircraft Mechanic, Electrical and Radio Electronics Mechanic Electronics Technician Inspector, Electronic Systems

Code	Military Trade Title	Abbr.	Related Civilian Trades
522	Communications Systems Technician	CS TECH	Tester, Electronic Components Television Service and Repairman
523	Radar Systems Technician	RS TECH	Electronics Mechanic Electronics Technician Inspector, Electronic Systems Tester, Electronic Equipment Television Service and Repairman
525	Avionics Technician	AVS TECH	Aircraft Mechanic, Electrical and Radio Electronics Mechanic Electronics Technician Inspector, Electronic Systems Tester, Electronic Equipment Television Service and Repairman
531	Safety Systems Technician	SS TECH	Airport Serviceman
551	Instrument Electrical Technician	IE TECH	Electrical Instrument Repairman Instrument Repairman Instrument Maker-Electrical Battery Repairman Electrician Automotive Instrument Foreman Electrician, Airplane Electrical Repairman Electrical Inspector (Aircraft)
561	Metals Technician	MTL TECH	Assembler Structure and Surface (Aircraft) Automobile Body Repairman Aircraft Mechanic, Plumbing and Hydraulic Layout Man Sheet Metal Worker Rivettes, Aircraft Welder, Combination

Code	Military Trade Title	Abbr.	Related Civilian Trades
562	Machinist	MACH	Machinist
563	Refinisher Technician	REF TECH	Upholsterer, Aircraft Manufacturing Upholstery Repairman Painter, Aircraft Painter, Spray
571	Weapons Technician (Air)	W TECH A	Artillery Maintenance Foreman Gunsmith

CONSTRUCTION ENGINEERING TRADES

Code	Military Trade Title	Abbr.	Related Civilian Trades
611	Construction Engineering Technician	CE TECH	Detailer Draftsman, Architectural Draftsman, Construction Draftsman, Electrical Draftsman, Heating and Ventilation Draftsman, Plumbing Draftsman, Water and Sewage Surveyor, Highway
612	Structures Technician	STR TECH	Carpenter Cement Mason Bricklayer Plasterer Painter Painter, Spray Instructor, Vocational School
613	Plumber Gas Fitter	PG FTR	Plumber Pipefitter Sheet Metal Worker
614	Electrician	ELECTN	Electrician Electric Refrigerator Repairman Electric Distribution Checker Power House Runner Electric Appliance Serviceman Electrical Foreman Lineman (Construction, Light Heat and Power)

Code	Military Trade Title	Abbr.	Related Civilian Trades
615	Construction and Maintenance Technician	CM TECH	Building Foreman (Construction) Construction Inspector Superintendent, Maintenance
621	Refrigeration and Mechanical Technician	RM TECH	Refrigeration Mechanic Maintenance Mechanic
622	Electrical Generating Systems Technician	EGS TECH	Powerhouse Engineer Powerhouse Runner Electrical Foreman, Substation Powerhouse Repairman
623	Stationary Engineer	STAT ENG	Stationary Engineer Boiler Operator Boilerhouse Inspector Heating Plant Superintendent
624	Water Sanitation and Pol Technician	WSP TECH	Water Treatment Plant Operator Sewage Disposal Worker Sanitary and Safety Inspector Sewage Plant Operator
625	Mechanical Systems Technician	MS TECH	Utilities and Maintenance Foreman (Any Industry)
651	Firefighter	FIREFTR	Fire Inspector Fire Chief Fire Fighter, Crash Fire Equipmentman
MEDICAL AND DENTAL TRADES			
711	Medical Assistant	MED A	Nurse Practical Registered Nursing Assistant
713	Operating Room Assistant	OP RM A	Surgical Technician Surgical Orderly

Code	Military Trade Title	Abbr.	Related Civilian Trades
714	Laboratory Technician	LAB TECH	Medical Technologist Medical Technician, Chief
715	X-Ray Technician	X TECH	X-Ray Technician, Chief X-Ray Equipment Tester
716	Hygiene Technician	HYG TECH	Sanitary and Safety Inspector Public Health Engineer Sanitary Inspector
717	Bioscience Technician	BIO TECH	Medical Physiologist (Med. Ser.)
722	Dental Clinic Assistant	DENT CL A	Dental Assistant
723	Dental Laboratory Technician	D LAB TECH	Dental Technician
724	Dental Equipment Maintenance Technician	DEM TECH	Dental Equipment Serviceman
725	Dental Therapist	DENT THR	Dental Hygienist

PERSONNEL AND ADMINISTRATIVE SUPPORT TRADES

Code	Military Trade Title	Abbr.	Related Civilian Trades
811	Military Policeman	MP	Patrolman, Detective/Investigator/Detective//Plain Clothesman//Investigator//Security Investigator
831	Administrative Clerk	ADM CLK	Office Manager Clerk General Compiler (Clerical) Clerk Typist Clerk General Office Proof Reader Employment Clerk Correspondence Clerk Secretary
841	Accounting and Finance Clerk	FIN CLK	Chief Payroll Clerk Cashier Bookkeeper III Clerical Bank Cashier Office Manager Accountant Auditor

Code	Military Trade Title	Abbr.	Related Civilian Trades
851	Physical Education and Recreation Instructor	PERI	Athletic Trainer/ Physical Training Instructor Community Center Director Community Recreation Director
861	Cook	COOK	Chef Cook, Hotel and Restaurant Cook, Short Order Cook, Chief Executive Chef
862	Steward	STWD	Steward, Dining Room Waiter, Head Bartender Housekeeper Manager, Catering
871	Musician	MUSCN	Musician, Instrumental Teacher, Music Librarian, Music Repairman, Musical Instrument
881	Postal Clerk	POST CLK	Post Office (Clerical) Mail Clerk (Clerical) Mail Carrier Postmaster Mail Supervisor (Clerical)
892	Draughtsman	DMN	Draftsman, Aeronautical Draftsman, Electrical Draftsman, Mechanical

SUPPLY AND TRANSPORTATION TRADES

Code	Military Trade Title	Abbr.	Related Civilian Trades
911	Supply Technician	SUP TECH	Purchasing Agent Manager, Office Manager, Warehouse Labourer, Stores Inventory Clerk Storekeeper Shipping and Receiving Foreman

Code	Military Trade Title	Abbr.	Related Civilian Trades
933	Traffic Technician	TFC TECH	Nil
935	Mobile Support Equipment Operator	MSE OP	Vehicle Operator

APPENDIX B

A SAMPLE TABLE FROM THE ELLIS COMPARATIVE CHART PREPARED BY THE MANPOWER TRAINING BRANCH MAKES UP THIS APPENDIX.

SAMPLE TABLE TAKEN FROM THE ELLIS COMPARATIVE CHART

COMMUNICATION ELECTRICIAN (TELEPHONE INDUSTRY)

					NFLD	NS	PEI	NB	QUE	ONT	MAN	SASK	ALTA	BC	NWT	YKN
APPRENTICESHIP TERM				1									4x 1800			
MINIMUM EDUCATION	REGULAR SCHOOLING			2									10			
	BTSD Voc. Prep. (Level)			3												
	ENTRANCE TEST			4												
In-School Apprentice Training	Year or Period	1st	Weeks	5									6			
			Theory (Hrs)	6												
			Practical (Hrs)	7												
		2nd	Weeks	8									6			
			Theory (Hrs)	9												
			Practical (Hrs)	10												
		3rd	Weeks	11									6			
			Theory (Hrs)	12												
			Practical (Hrs)	13												
		4th	Weeks	14									6			
			Theory (Hrs)	15												
			Practical (Hrs)	16												
		5th	Weeks	17												
			Theory (Hrs)	18												
			Practical (Hrs)	19												
Total in School Apprentice Training (Wks)				20									24			
Hours Night School Training Per Year				21												
Pre-Apprentice Training (Wk)				22												
Certification	Compulsory			23												
	Voluntary			24												

ALBERTA - No Journeyman certification.

APPENDIX C

THIS APPENDIX CONTAINS A COPY OF THE COVERING LETTER THAT ACCOMPANIED THE RESEARCH QUESTIONNAIRE.

ALSO INCLUDED IN THIS APPENDIX IS A COPY OF THE FOLLOW-UP LETTER THAT WAS SENT TO THOSE PARTICIPANTS WHO DID NOT RETURN THEIR INSTRUMENTS BY THE DEADLINE DATE.

FACULTY OF EDUCATION
DEPARTMENT OF INDUSTRIAL AND
VOCATIONAL EDUCATION
TELEPHONE (403) 432-3678

THE UNIVERSITY OF ALBERTA
EDMONTON, ALBERTA, CANADA
T6G OY1

SAMPLE COPY OF THE COVERING LETTER

January 14, 1977.

Dear Mr.

Currently, I am attending the University of Alberta working on a Master of Education degree. One of the requirements for the conferring of the degree is the completion of a thesis. The topic I have chosen for my thesis is, "A Description of the Procedures Used for Civilian Accreditation of Military Occupations in Canada," which in essence examines how an appropriate level of military service in a military occupation can be equated with trade experience for a similar civilian occupation that is apprenticeable.

If your daily activities are like most people in today's society, we realize that you have very little time to concern yourself with non-essential matters. We think that the transition of military occupations to civilian occupations is an essential matter. We expect the final results of this study will be both an interest and value to the Service Personnel as well as the Apprenticeship Branches across Canada and the Territories.

Could you just find a few minutes of your time to check off your responses on the enclosed survey instrument and place it in the stamped self-addressed envelope and mail it to me before March 15, 1977. The success of this study depends upon a high percentage of returns, thus, your utmost cooperation is essential if this study is to be successful.

Any information that you provide, we will treat as privileged information, and will be made available only to the researcher.

For those who cooperate in the study, a copy of the research abstract will be available on request.

Yours truly,

Clarence H. Preitz (Dr.)
Department Advisor

T.L. Yee
Graduate Student

FACULTY OF EDUCATION
DEPARTMENT OF INDUSTRIAL AND
VOCATIONAL EDUCATION
TELEPHONE (403) 432-3678

QUAECUMQUE VERA

THE UNIVERSITY OF ALBERTA
EDMONTON, ALBERTA, CANADA
T6G 0Y1

SAMPLE COPY OF THE FOLLOW-UP LETTER

March 23, 1977.

Dear Mr.

This is to follow on our telephone conversation of the 18th when we discussed the research study I am conducting. This study deals with "A Description of the Procedures Used for Civilian Accreditation of Military Occupations in Canada."

Needless to say I was most surprised to hear that you had not received my letter with the research instrument. Because you had not received these research documents, I am enclosing a copy of the research instrument in a self-addressed stamped envelope. It would be appreciated if you would return the instrument to me by April 15, 1977, in order for me to meet my research time line.

You may be interested to hear that 90 percent of the provinces and territories have returned a completed research instrument.

All information that you provided will be treated as privileged information.

Thank you for your cooperation.

Yours truly,

Clarence H. Preitz (Dr.)
Department Advisor

T.L. Yee
Graduate Student

APPENDIX D

A COPY OF THE RESEARCH QUESTIONNAIRE THAT WAS USED IN THE MAJOR INVESTIGATION THAT WAS MAILED TO EACH DIRECTOR OF APPRENTICESHIP IN EACH OF THE PROVINCES AND TERRITORIES IN CANADA CAN BE FOUND IN THIS APPENDIX.

SURVEY INSTRUMENT

Topic: Procedures used for civilian accreditation of military training

Directions to Participants:

This instrument is for research purposes. The information you provide will:

1. Be used for research purposes only.
2. Be treated as privileged information.
3. Remain confidential to the researcher.

In completing this instrument merely check (✓) off the most appropriate phrases, or sentences, and make any comments as they apply to your provincial jurisdiction. For those statements which are not applicable, please do not respond or make a comment.

PROVINCES or TERRITORIES:

B.C. ☐
ALTA. ☐
SASK. ☐
MAN. ☐
ONT. ☐
QUE. ☐

N.B. ☐
N.S. ☐
P.E.I. ☐
NFLD. ☐
N.W.TERRITORY ☐
YUKON TERRITORY ☐

Since November 1974, personnel of the Military/Civilian Training Accreditation Committee (M/CTAC) have met with members of the various Apprenticeship Branches across Canada and its territories. The purpose of these meetings was to identify military trades that could receive civilian accreditation.

The members of military trades that have been recognized varies from province to province with a variety of means for equating time in a military trade with a counterpart civilian occupation.

The purpose of this study is to identify those military trades in each of the provinces that were recognized as certifiable civilian occupations and the procedures used by each province (territory) to determine the criteria for recognizing those trades.

The following operational definitions will apply to this study:

Military/Civilian Training Accreditation Committee (M/CTAC).

A committee consist of service members to "recommend a realistic program to implement accreditation throughout the Canadian Forces". The committee acts primarily in a policy-making and co-ordinating capacity (A report on the M/CTAC, Oct. 1975, p. 2).

Military Trade School (Formal Training).

A school to train people to maintain or operate a specific type of equipment or range of equipments (Implementing Performance Oriented Training, Riley 1970, p. 4).

SURVEY QUESTIONS

1. Does the Apprenticeship Branch in your province (territory) at the present have a set of guidelines that are used to equate military occupations with civilian occupations?

   Please check either YES or NO.

   (a) YES ☐

   If yes, please explain ______________________________

   ____

   ____

   ____

   (b) NO ☐

   If no, does the Apprenticeship Branch plan to give consideration to establish a set of guidelines for equating military occupations with civilian occupations?

   Please comment ______________________________

   ____

   ____

   ____

2. What are the procedures presently in use by the Apprenticeship Branch in your province (territory) for accrediting military occupations?

(You may check (✓) more than one.)

(a) The individual must apply to the Provincial Tradesmen's Qualification and Certification Branch Office for permission to write the appropriate trade examination. ☐

(b) The individual must present proof of the required length of time actively employed in the designated trade. ☐

(c) The individual must present proof of formal training in the designated trade. ☐

(d) The individual must provide proof of minimum education as required for the designated trade or a high school transcript of marks. ☐

Should you wish to comment on any of the above statements that you have checked, please do so in the space provided below.

Comments ______________________________

____

____

____

3. What are the criteria used in your province (territory) to identify an appropriate level of military experience in a trade for civilian certification?

(You may check (✓) more than one).

(a) Proof of time spent on-the-job. ☐

(b) Proof of formal trade training. ☐

(c) Proof of minimum education as required for the designated trade. ☐

(d) High school transcript of marks. ☐

Should you wish to comment further on any of the above criteria, please do so in the space provided below.

Comments ____

____

____

____

4. From the following list of military trades, please identify those trades that are designated in your province (territory). This question is intended to be used in trade areas where the type of work performed is lower or lesser than the Journeyman level, but recognizable towards Journeyman certification.

Please place a check mark (✓) in the appropriate column(s) to indicate the maximum amount of credit available toward Journeyman certification.

SERVICE TRADE CODE	SERVICE TRADE TITLE	APPRENTICESHIP YEARS 1	2	3	4
041	FIELD ENGINEER				
052	LINEMAN				
131	PHOTOGRAPHIC TECHNICIAN				
221	RADIO TECHNICIAN				
223	TELETYPE AND CYPHER TECHNICIAN				
224	COMMUNICATION TECHNICIAN				
231	RADAR TECHNICIAN				
251	RADIOMAN (SEA)				
252	COMMUNICATION TECHNICIAN (SEA)				
311	MARINE ENGINEERING TECHNICIAN				
321	HULL TECHNICIAN				
331	ELECTRICAL TECHNICIAN				
411	VEHICLE TECHNICIAN				
431	ELECTRO-MECHANICAL TECHNICIAN				
511	AERO ENGINE TECHNICIAN				
512	AIRFRAME TECHNICIAN				
513	AVIATION TECHNICIAN				
521	INTEGRAL SYSTEMS TECHNICIAN				
522	COMMUNICATION SYSTEMS TECHNICIAN				
523	RADAR SYSTEMS TECHNICIAN				

SERVICE TRADE CODE	SERVICE TRADE TITLE	APPRENTICESHIP YEARS 1	2	3	4
525	AVIONICS TECHNICIAN				
531	SAFETY SYSTEMS TECHNICIAN				
551	INSTRUMENT ELECTRICAL TECHNICIAN				
561	METALS TECHNICIAN				
562	MACHINIST				
563	REFINISHER TECHNICIAN				
611	CONSTRUCTION ENGINEERING TECHNICIAN				
612	STRUCTURE TECHNICIAN				
613	PLUMBER GAS FITTER				
614	ELECTRICIAN				
615	CONSTRUCTION TECHNICIAN				
621	REFRIGERATION AND MECHANICAL TECHNICIAN				
622	ELECTRICAL GENERATING SYSTEMS TECHNICIAN				
623	STATIONARY ENGINEER				
624	WATER SANITATION AND POL TECHNICIAN				
625	MECHANICAL SYSTEMS TECHNICIAN				
651	FIRE FIGHTER				
711	MEDICAL ASSISTANT				
714	LABORATORY TECHNICIAN				
715	X-RAY TECHNICIAN				
716	HYGIENE TECHNICIAN				
861	COOK				
892	DRAUGHTSMAN				

OTHERS NOT LISTED - Please include apprenticeship years.

- -

- -

- -

5. What is the time requirement in years that a military trades person must reach before the Apprenticeship Branch in your province or territory grants permission to write the Provincial Journeyman and/or the Interprovincial Journeyman examination(s)?

Directions for completing this question.

For each Service Trade Title, and for each Classification, please enter required time spent in trade needed to write each examination.

Example:

SERVICE TRADE CODE	SERVICE TRADE TITLE	CLASSIFICATION	
		PROVINCIAL JOURNEYMAN	INTERPROVINCIAL RED SEAL
614	ELECTRICIAN	4	5

An interpretation of the above example would be that in order for an Electrician to write the Provincial Journeyman examination, 4 years on the job experience is required, and for the Interprovincial Red Seal examination, 5 years is required.

TIME SPENT IN TRADE OF A MILITARY TRADES PERSON

IN YEAR(S)	IN HOURS
1 Year	1680 hrs.
2 Years	3360 hrs.
3 Years	5040 hrs.
4 Years	6720 hrs.
5 Years	8400 hrs.
6 Years	10,080 hrs.
7 Years	11,760 hrs.
8 Years	13,440 hrs.
9 Years	15,120 hrs.
10 Years	16,800 hrs.

SERVICE TRADE CODE	SERVICE TRADE TITLE	CLASSIFICATION	
		PROVINCIAL JOURNEYMAN	INTERPROVINCIAL RED SEAL
041	FIELD ENGINEER		
052	LINEMAN		
131	PHOTOGRAPHIC TECHNICIAN		
221	RADIO TECHNICIAN		
223	TELETYPE AND CYPHER TECHNICIAN		
224	COMMUNICATION TECHNICIAN		
231	RADAR TECHNICIAN		
251	RADIOMAN (SEA)		
252	COMMUNICATION TECHNICIAN (SEA)		
311	MARINE ENGINEERING TECHNICIAN		
321	HULL TECHNICIAN		
331	ELECTRICAL TECHNICIAN		
411	VEHICLE TECHNICIAN		
431	ELECTRO-MECHANICAL TECHNICIAN		
511	AERO ENGINE TECHNICIAN		
512	AIRFRAME TECHNICIAN		
513	AVIATION TECHNICIAN		
521	INTEGRAL SYSTEMS TECHNICIAN		
522	COMMUNICATION SYSTEMS TECHNICIAN		
523	RADAR SYSTEMS TECHNICIAN		
525	AVIONICS TECHNICIAN		
531	SAFETY SYSTEMS TECHNICIAN		
551	INSTRUMENT ELECTRICAL TECHNICIAN		
561	METALS TECHNICIAN		

SERVICE TRADE CODE	SERVICE TRADE TITLE	CLASSIFICATION	
		PROVINCIAL JOURNEYMAN	INTERPROVINCIAL RED SEAL
562	MACHINIST		
563	REFINISHER TECHNICIAN		
611	CONSTRUCTION ENGINEERING TECHNICIAN		
612	STRUCTURE TECHNICIAN		
613	PLUMBER GAS FITTER		
614	ELECTRICIAN		
615	CONSTRUCTION TECHNICIAN		
621	REFRIGERATION AND MECHANICAL TECHNICIAN		
622	ELECTRICAL GENERATING SYSTEMS TECHNICIAN		
623	STATIONARY ENGINEER		
624	WATER SANITATION AND POL TECHNICIAN		
625	MECHANICAL SYSTEMS TECHNICIAN		
651	FIRE FIGHTER		
711	MEDICAL ASSISTANT		
714	LABORATORY TECHNICIAN		
715	X-RAY TECHNICIAN		
716	HYGIENE TECHNICIAN		
861	COOK		
892	DRAUGHTSMAN		

OTHERS NOT LISTED - Please identify classification for each trade.

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6. From the following list of military trades, please identify those trades that are under Provincial Journeyman and/or Interprovincial Red Seal certification in your province (territory).

Please place a check mark (✓) in the appropriate column(s).

SERVICE TRADE CODE	SERVICE TRADE TITLE	CLASSIFICATION	
		PROVINCIAL JOURNEYMAN	INTERPROVINCIAL RED SEAL
041	FIELD ENGINEER		
052	LINEMAN		
131	PHOTOGRAPHIC TECHNICIAN		
221	RADIO TECHNICIAN		
223	TELETYPE AND CYPHER TECHNICIAN		
224	COMMUNICATION TECHNICIAN		
231	RADAR TECHNICIAN		
251	RADIOMAN (SEA)		
252	COMMUNICATION TECHNICIAN (SEA)		
311	MARINE ENGINEERING TECHNICIAN		
321	HULL TECHNICIAN		
331	ELECTRICAL TECHNICIAN		
411	VEHICLE TECHNICIAN		
431	ELECTRO-MECHANICAL TECHNICIAN		
511	AERO ENGINE TECHNICIAN		
512	AIRFRAME TECHNICIAN		
513	AVIATION TECHNICIAN		
521	INTEGRAL SYSTEMS TECHNICIAN		
522	COMMUNICATION SYSTEMS TECHNICIAN		
523	RADAR SYSTEMS TECHNICIAN		
525	AVIONICS TECHNICIAN		
531	SAFETY SYSTEMS TECHNICIAN		

SERVICE TRADE CODE	SERVICE TRADE TITLE	CLASSIFICATION PROVINCIAL JOURNEYMAN	 INTERPROVINCIAL RED SEAL
551	INSTRUMENT ELECTRICAL TECHNICIAN		
561	METALS TECHNICIAN		
562	MACHINIST		
563	REFINISHER TECHNICIAN		
611	CONSTRUCTION ENGINEERING TECHNICIAN		
612	STRUCTURE TECHNICIAN		
613	PLUMBER GAS FITTER		
614	ELECTRICIAN		
615	CONSTRUCTION TECHNICIAN		
621	REFRIGERATION AND MECHANICAL TECHNICIAN		
622	ELECTRICAL GENERATING SYSTEMS TECHNICIAN		
623	STATIONARY ENGINEER		
624	WATER SANITATION AND POL TECHNICIAN		
625	MECHANICAL SYSTEMS TECHNICIAN		
651	FIRE FIGHTER		
711	MEDICAL ASSISTANT		
714	LABORATORY TECHNICIAN		
715	X-RAY TECHNICIAN		
716	HYGIENE TECHNICIAN		
861	COOK		
892	DRAUGHTSMAN		

OTHERS NOT LISTED - Please identify classification for each trade.

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7. Which of the following military trades in your province (territory) have compulsory certification or non compulsory certification.

Please place a check mark (✓) in the appropriate column(s).

SERVICE TRADE CODE	SERVICE TRADE TITLE	COMPULSORY CERTIFICATION	NON COMPULSORY CERTIFICATION
041	FIELD ENGINEER		
052	LINEMAN		
131	PHOTOGRAPHIC TECHNICIAN		
221	RADIO TECHNICIAN		
223	TELETYPE AND CYPHER TECHNICIAN		
224	COMMUNICATION TECHNICIAN		
231	RADAR TECHNICIAN		
251	RADIOMAN (SEA)		
252	COMMUNICATION TECHNICIAN (SEA)		
311	MARINE ENGINEERING TECHNICIAN		
321	HULL TECHNICIAN		
331	ELECTRICAL TECHNICIAN		
411	VEHICLE TECHNICIAN		
431	ELECTRO-MECHANICAL TECHNICIAN		
511	AERO ENGINE TECHNICIAN		
512	AIRFRAME TECHNICIAN		
513	AVIATION TECHNICIAN		
521	INTEGRAL SYSTEMS TECHNICIAN		
522	COMMUNICATION SYSTEMS TECHNICIAN		
523	RADAR SYSTEMS TECHNICIAN		
525	AVIONICS TECHNICIAN		
531	SAFETY SYSTEMS TECHNICIAN		

SERVICE TRADE CODE	SERVICE TRADE TITLE	COMPULSORY CERTIFICATION	NON COMPULSORY CERTIFICATION
551	INSTRUMENT ELECTRICAL TECHNICIAN		
561	METALS TECHNICIAN		
562	MACHINIST		
563	REFINISHER TECHNICIAN		
611	CONSTRUCTION ENGINEERING TECHNICIAN		
612	STRUCTURE TECHNICIAN		
613	PLUMBER GAS FITTER		
614	ELECTRICIAN		
615	CONSTRUCTION TECHNICIAN		
621	REFRIGERATION AND MECHANICAL TECHNICIAN		
622	ELECTRICAL GENERATING SYSTEMS TECHNICIAN		
623	STATIONARY ENGINEER		
624	WATER SANITATION AND POL TECHNICIAN		
625	MECHANICAL SYSTEMS TECHNICIAN		
651	FIRE FIGHTER		
711	MEDICAL ASSISTANT		
714	LABORATORY TECHNICIAN		
715	X-RAY TECHNICIAN		
716	HYGIENE TECHNICIAN		
861	COOK		
892	DRAUGHTSMAN		

OTHERS NOT LISTED - Please identify type of certification for each trade listed.

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8. What are some of the obstacle(s) that your Apprenticeship Branch has encountered with service personnel who were seeking apprenticeship qualification?

(You may check (✓) more than one.)

(a) Deficient in the amount of time actively employed in the designated trade. ☐

(b) Could not provide adequate proof of formal training in the designated trade. ☐

(c) Lacked the minimum education requirement for the designated trade. ☐

(d) Had difficulty passing the highest level of apprenticeship examination(s) when compared to the training received with the service. ☐

(e) Had difficulty passing the lowest level of apprenticeship examination(s) when compared to the training received with the service. ☐

Others ____

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Should you wish to comment on this question and/or any of the above statements, please do so in the space provided below.

Comments ____

____

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9. What are some of the obstacle(s) that your Apprenticeship Branch has encountered with the service personnel who were seeking trade certification?

(You may check (✓) more than one.)

(a) Deficient in the amount of time actively employed in the designated trade. ☐

(b) Could not provide adequate proof of formal training for the designated trade. ☐

(c) Lacked the minimum education requirement for the designated trade. ☐

(d) Had difficulty passing the journeyman certification examination(s) for the designated trade. ☐

(e) Military trade classification was not comparable to its equivalent civilian trade. ☐

Others ______________________________

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Should you wish to comment on this question and/or any of the above statements, please do so in the space provided below.

Comments ______________________________

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10. If there are any components of your program to certify skilled military trades for civilian trade certification that are not included in any of the above statements, please list them below.

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